Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 MB 3,8 e

3. Edition

PES 4 A 80 C 410 RS 2094

EP/RSV 300-1300 A1 B424 D (1) supersedes

EP/RSV 300-1400 A2 B424 D (2) company

Daimler-Benz

6.70

EP/RSV 250-1500 A2 B424 D (3) engine

OM 314

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm3/100 strokes	100 strokes	mm	cm\$100 strokes	mm
1	2	3	4	2	3	6
1000	9	5,6 - 6,0	0,4			
200	5	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

EP/RSV 300-1300 A1 B424 D (1)

Degree of deflection of control lever	r rated speed Control rod travel mm					Control- lever deflection in degrees ?		rated speed Control rod travel mm	Torque control Control red travel rev/min mm 10 11		
ca.73	1300 1350 1390	16,0 10,6 4,6	without auxiliar spring			ca.27 y	300 100	6,0 19 - 21	1280	0	
29	1360 1400 1500	7,5-10,5 2,6- 5,6 0,3- 1	with auxiliary spring			300 450 600	5,7-6,3 1,4-3,6 0 - 1	900 400	0,4-0,6 1,2-1,4		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	2b Full-load stop [est oil temp 40°C (104°F) Rote Note			iel delivery paracteristics	Starting f	uel delivery 5	4a Idle stop		
rev/min	emp 40°C (104°F) n ² /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm\$1000 strokes	rev/min 8	Control rod travel mm 9	
1280	55,0-57,0 54,0-58,0	1340-1350*	900 500	52,0-55,0 51,0-56,0 52,5-55,5 51,5-56,5	100	6,8-7,8	300	6,0	
								./.	

Checking values in brackets



^{* 1} mm less control rod travel than col 2

300-1400 A2 B424 D (2)

Degree of deflection of control lever	ection traves traves mm rev/min			speed	Control- lever deflection in degrees 7	- Lower rev/min 8	rated speed Control rod travel mm	3 To rev/min 10	rque control Control rod travel mm	
ca.57	1400	16,0	***************************************			ca.22	300	6,0	ą.	
	1460 1520	12,0 6,8		without auxilia spring			100	19 - 21	1380	0
29	1500 1600 1720	6,8-10,0 1,8- 4,3 0,3- 1	with auxiliary spring		- 1 /3311/	500	5,7-6,3 1,8-3,9 0 - 1	500	0	

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat Note: changed to)			lale	uel delivery 5	da idle stop Control rod travel		
rev/min	cm ³ /1000 strokes	rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes	rev/min 8	mm 9	
1380	47,5 - 49,5 46,5 - 59,5	1440-1450*			100	6,8-7,8 5,8-8,8	300	6,0	

Checking values in brackets

restoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

250-1500 A2 B424 D (3)

1 Uppe	r rated speed		Intermed	Intermediate rated speed			Lower rated speed			rque control
Degree of deflection	Control rod Control rod travel travel					Control- lever		Control rod travel		Control rod travel
of control lever 1	mm 2	mm rev/min	4	5	6	deflection in degrees 7	rev/min 8	mm 9	rev/min 10	mm 11
ca.61	1500	16,0				ca.21	250	6,0		
	1600 1630	8,0 5,6	sprin	out aux ng	kiiiar	y	150	19 - 21		
29 .	1610 1700 1800	5,6-8,8 1,4-4,2 0,3-1,0	1 .	with auxiliary spring			250 500 660	5,7-6,3 0,8-3,6 0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

	emp. 40°C (104°F)	Rotational- speed limitat. Note: changed to)	eed limitat. Characteristics		Starting fiddle	uel delivery 5	da idle stop Control rod travel mm	
1	2	3	4	5	6	7	8	9
1480	48,5 - 50,5 47,5 - 51,5	1540-1550*		ú	100	6,8-7,8 5,8-8,8	250	€,0

Checking values in brackets En

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Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 MB 5,7 n 1 3. Edition

n

PES 6 A 90 D 410 RS2293

RQV 300-1425 AB 919,920,925

RQV 300-1425 AB 919,920,925

supersedes 9.76

company Daimler-Benz engine OM 352(130PS) "Z"-OM 352A (168PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15+0,1

RS2293Z

mm (from BDC)

 $\binom{+0,15}{-0,05}$

Rotational speed	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,5 - 5,0	0,4			
	6	1,8 - 2,6	1			
	12	7,3 - 8,3				
200	9	2,0 - 2,8				,

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

ſ	Upper rated s	peed		Intermediate	rated spe	1	Lower rated	speed		Sliding sleeve travel	
			Control rod ta	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		\cup
	of control	rod travel		of control lever	rev/min	mm (4)	of control lever	rev/min	mm ③	rev/min	mm
- [1	2	3	4	5	6	7	8	9	10	11
	ca.28		16,0-19,0 10,8-15,3 3,3-10,0 0 - 7,4	-	-	-	ca.10	200 300 450 600 760	6,0-7,4 4,9-6,6 3,0-3,9 1,4-2,8	400 1425	1,2-2,2 8,3
							<u>3a</u>				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil terr		top 40°C (104°F) 2 limitation intermediate speed				fuel delivery 6	Torque- travel	Control Control rod
rev/min cm³/1000 strokes		rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm .
1	2	3	4	5	6	7	8	9 .
1400	61,0-63,0 59,5-64,5	1455 - 1465*			100	72,25-82,25 70,75-83,75	700	(919, 925)
1400	73,5-75,5 72,0-81,0	1435-1445*		·			1300	(920)
					180-	250min ⁻¹		

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 41

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 5,7 s 3 1. Edition

En

PES 6 A 90 D 410 RS2293Z

RQV 300-1425 AB946L

supersedes

MB5,7s(8.77)
Daimler-Benz

company engine Daimler-Benz 115kW (156PS) OM 352..

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Fort pipeling Et bioc						
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strok@s 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,5 - 5,0	0,4			
	6 12	1,8 - 2,6 7,3 - 8,3				
200	9	2,0 - 2,8				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed	•	Sliding s	leeve travel
deffection	rev/min Control	Control rod travel	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel	,	· ①
of control	rod travel mm	mm rev/min (2a)	of control lever	rev/min	mm (4)	of control lever	rev/min	mm ③	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.66	1425 1500 1550	11,6-16,0 8,2-13,4		-	-	ca.10	100 300 450	6,6-7,8 4,9-6,4 3,0-4,2	400 1425	
	1650 1790						600 760	1,3-2,8 0		
						3 a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roe Test oil ten	d stop np. 40°C (104°F) 2	Rotational-speed (2b) timitation intermediate speed rev/min (4a)	high idle s	rery characteristics 5a	idle switchir		Torque- travel	Control od travel
1	2	3	4	5	8		8	9 ·
LDA 1410	0,4 bar 70,0-72,0 68,5-73,5	1440-1450*	LDA 1410 500	57,5-64,0	100 100	13,7-14,3 220(80-240)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 5,7 h

3. Edition

PES6A80C410RS2194, 2085	RQV300-1425AB620D, 625D	(1)	supersedes DAI5,7h-1.68
RS2194, 2085	AB628D, 629D	(2)	company: Daimler-Benz
RS2194V,2085V	AB625D	(3)	OMP 352 (1-110kW-150PS)
RS2194, 2085	AB657D	(4)	(2- 93KW-126PS)
D			(3-115kW-156PS)
			(4- 96kW-130PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,10-2,30) mm (from BDC)

Rotational speed | Control rod travel |

		mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
	1000	9	5,5 - 6,0	0,4			
		6	2,2 - 3,0				
	200	6	1,3 - 2,2				
1							

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

620D, 625D (1)

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	speed		Sliding s	eeve travei
	rev/min Control	Control rod travel	(18)	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		①
	rod travel mm	mm rev/min	28	of control lever	rev/min	mm (4)	of control lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
ca.66	1425	-					ca.10	200 400	6,0-7,4 3,5-5,2	1425	8,3
	1550 1650	1,4-8	,0					460	2,7-3,8	1425	0
	1700 1790		,2					770	1,4-2,8 0	600	0,4-0,6
							3a)				

Torque controi travel a = 0.5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil terr		Rotational-speed 20 limitation intermediate speed	Fuel detiving high idle s	rery characteristics 50 peed 50	Starting Idle switchin	<u> </u>	Torque- travel	control 5
rev/min 1	cfh ³ /1000 strokes 2	rev/min 4a	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm
(1) 1400	66,0 - 68,0 65,0 - 69,0	1455-1465*	1000 800 500	60,5-63,5 61,5-64,5 56,5-60,0	100	72,5-82,5	700 1300	(620D) (625D)

Checking values in brackets

Control rod travel	Slidings	leeve travel
min mm (3)	rev/min	mm
9	10	11
00 3,5-5,2	1425 1425	8 , 3
00 1,4-2,8		0,7-0,9
	00 3,5-5,2 30 2,7-3,8 00 1,4-2,8	00 3,5-5,2 80 2,7-3,8 1425 00 1,4-2,8

Torque control travel a = 0,8 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed (2b) imitation intermediate speed	Fuel deliv high idlé s	very characteristics (5a) speed (5b)	Starting idle switchir		Torque- travel	Control rod
rev/min	cm ⁴ 1000 strokes	rev/min 4a	rev/min	cm ³⁹ 1000 strokes 5	rev/min 6	cm3/1000 strokes	rev/min	travel mm
(2) 1400	56,0-58,0	1455-1465	1000 800 500	53,5-56,5 52,0-55,0 49,5-52,5	100	72,5-82,5	700	

Checking values in brackets

B. Governor Settings

V mit 625 D (3)

Upper rated	speed			Intermediate rated speed				Lower rated	speed	Slidings	leeve travel	
Degree of deflection of control	rev/min Control rod travel	Control rod travel	ta	Degree of deflection of control	ı	Control re	bd	Degree of deflection of control	1	Control rod travel	Jonain 9 5	1
lever	mm	rev/min	(2a)	lever	rev/min	mm	4	lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6		7	8	9	10	11
ca.66	1425 1550 1650 1700 1790			-	-	-		ca.10		6,0-7,4 3,5-5,2 2,7-3,8 1,4-2,8	1425 1425 600	8,3 0 0,4-0,6
								3a				

Torque control travel a = 0,5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil terr rev/min		Rotational-speed (20) Ilimitation Intermediate speed rev/min	Fuel dein high idle s rev/min	rery characteristics 5a speed 5b cm ³ /1000 strokes			Torque- travel rev/min	Control 5 Control rod travel mm
(3) 1400	70,5-72,5	1455-1465*	1000 800 500	64,0-67,0 63,0-66,0 59,0-63,0	100	72,5-82,5	1300	3

Checking values in brackets

^{* 1} mm less control rod travel than col 2

deflection	rev/min Control rodtravel	rev/min	(a)		rev/min	ed Control rod travel mm 4	Lower rated Degree of deflection of control lever		Control rod travel mm 3	Sliding sli rev/min 10	eeve travel 1 mm 11
ca.66	1425 1550	16,0-19 8,2-13		-	-	-	ca.10	200 400	6,0-7,4 3,5-5,2	1425	8,3
	1650 1700 1790	1,4- 8 0- 9 0						480 600 770	2,7-3,8 1,4-2,8	1425 600	0 0,8-1,0
							(3a)				

Torque control travel a = 0,9 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	stop	Rotational-speed (2b) limitation intermediate speed	Fuel deliv high idle s	ery characteristics 5a peed 5b	Starting tidle switchir		Torque- travel	Control rod	
rev/min	cm ³ 1000 strokes	rev/min 4a	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm3/1000 strokes	rev/min 8	travel mm 9	
(4) 1400	58,0-60,0	1455-1465*		55,1-58,0 56,5-59,5 51,5-54,5	100	72,5-82,5			

Checking values in brackets

1 mm less control rod travel than col. 2

B. Governor Settings

Upper rated	speed			Intermediate rates speed			Lower rated	speed	Sliding sl	eeve travel	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min	(1a) (2a)	Degree of deflection of control lever		Control rod travel	Degree of deflection of control lever	rev/min	control rod travel mm 3		mm
1,	2	3		4	5	6	7	8	9	10	11
							(3a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

		Rotational-speed (2b) ilmitation intermediate speed (4a)	Fuel delivingh idle s	very characteristics (5a) speed (5b) cm ⁴ /1000 strokes	Starting Idle switching	ng point	travel	Control rod travel
rev/min	cm³/1000 strokes	3	4	5	6	7	8	9
								2
					<u> </u>		<u> </u>	<u> </u>

Checking values in brackets

40

WPP 001/4 MB 3,8 f

3. Edition

En

supersedes EP/RSV 350-1425 A2 B1008D (1) PES 4 A 80 C 410 RS2094Z 12.75 company Daimler-Benz 2094Z EP/RSV 350-1275 A2 B 242D (2) 2094Z EP/RSV 350-1200 A2 B1004D (3) OM 314 engine (1-80 PS) EP/RSV 350-1425 A2 B1008D (1) .. D .. 1106Z (2- 54 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

(2- 54 PS) (3-MB-Trac 65 PS)

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm3/100 strakes	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm\$100 strokes	Spring pre-tensioning (torque-control valve) mm
1	2	3	4	2	3	6
1000	9	4,3 - 4,8	0,3			
	6	1,8 - 2,6				
	15	10,3 -11,6			1	
200	9	2,4 - 3,4		,		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

estoil-ISO 4113

350-1425 A2B1008D (1)

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed			Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control red travel mm 9	9	rque control Control rod travel mm
ca.60	1425 1500 1560	16,0 11,5 6,6	without auxiliar spring			ca.22 y	350 200	7,0 19 - 21	1400 700	0
29	1520 1600 1800	8,8-11,0 4,0- 5,9 0,3- 1,0	with auxiliary spring			350 600 870	6,7-7,3 2,3-4,6 0 - 1	450	0,6-0,8	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	Speed in			el delivery aracteristics	Starting f				
	cm ³ /1000 strokes	Note changed to) rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ² /1000 strokes	rev/min	Control rod travel mm	
1400	59,0 - 61,0 58,5 - 61,5	1440-1455*	700 500	51,0-54,0 50,5-54,5 50,0-53,0 49,5-52,5	100	72,5-82,5 72,0-83,0		·	

Checking values in brackets

* 1 mm less control rod travel than col 2

1.76

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung \S 1980 by Robert Bosch GmbH. Postfach 50, 0-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fedérale d'Allemagne par Robert Bosch GmbH.

350-1275 A2B242D (2)

Degree of deflection of control lever 1	r rated speed Control rod travel mm 2	rev/min Control rod travel mm rev/min 3	Intermediate rated speed		Control- lever deflection in degrees 7	Lower rev/min 8	Control rod travel mm		rque control Control rod travel mm	
ca.54	1275 1350 1420	16,0 11,4 6,2	without auxiliar spring with auxiliary spring			ca.22 y	350 200 350	7,5 19 - 21 7,2-7,8	1275	0
29	1380 1500 1680	7,8-10,2 2,6-4,8 0,3-1,0					350 600 900	2,9-5,2 0 - 1	400	0,2-0,4 1,1-1,3

C. Settings for Fuel Injection Pump with Fitted Governor

2b Full-load stop		6 Rotational-speed limitat. 3a Fuel delivery characteristics				uel delivery 5	4a idle stop	
Test oil te rev/min 1	cm ³ /1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control roo travel mm 9
(2) 1250	44,5 - 46,5	1300-1310*	1000 800 500	43,5-46,5 42,0-45,0 41,0-44,0	100	72,5-82,5		
**								

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

350-1200 A2B10004D (3)

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed			Control- lever deflection in degrees 7	-	rated speed Control rod travel mm	3 To rev/min 10	rque control Control rod travel mm
ca.44	1200 1250 1300	16,0 10,7	witho sprin	ut aux g	ciliar	ca.15	350 200 350	6,0 19 - 21 5,7-6,3	1200 1000	0
29	1200 1300 1450	ca.8,5 ca.3,2 0,3-1,0	with sprin	auxili g	iary		600 850	1,8-3,8	500	0,8-1,0

C. Settings for Fuel Injection Pump with Fitted Governor

9	emp. 40°C (104°F) cm³/1000 strokes	Rotational- speed limitat. Note: changed to) rev/min rev/min Rotational- speed limitat. rev/min rev/min 3 Fuel delivery characteristics rev/min 5		aractenstics	Starting fidle	uel delivery 5 cm³/1000 strokes	•	Control rod travel mm
(3) 1200	47,5 - 49,5	1220-1235*	1000 500	46,5 - 49,5 42,5 - 45,5	100	72,5-82,	5	·
** I	ncrease by ± 0,	cm³!						

Checking values in brackets

* 1 mm less control rod travel than col. 2

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Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 MB 3,8 k 1. Edition

Er

PES 4 A 90 D 410 RS2294

EP/RSV 750-1400 A0B795DL

supersedes

company

Daimler-Benz OM 314

engine OM 3

(Generator -90PS)

Ail test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm3/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,5 - 5,0	0,3(0,45)			
	6 12	1,8 - 2,6 7,3 - 8,2				
200	9	2,0 - 2,8				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

estoil-ISO 4113

1	r rated speed Control rod travel mm		intermed	liate rated	speed	Control- lever deflection in degrees 7	Lotvet rev/min	rated speed Control rod travel mm	1 5	rque control Control rod travel mm 11
ca.51	1330 1380 1440 1385 1440 1500	15,8 10,7 3,3 ca. 9,7 ca. 3,6 0,3-1,7	withous spring	out aux	xilia	ca.30	750 100 750 820	6,0 mind.19 5,7-6,3 0 - 1	1380 450	0 1,7-1,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-toad stop	6 Rotational- speed limitat		iel delivery aracteristics	Starting f	uel delivery 5	4a) idle stop	
	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1 000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
1345	71,5 - 72,5 (69,5 - 74,5)	1385-1390 ⁻			100	84,25- 91,25		·
			1435-	1440 = 3,6mmRW	750	20,25- 26,25		

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung § 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 MB 3,8 h

2. Edition

PES 4 A 90 D 410 RS 2294

EP/RSV 350-1000 A1 B 585 D (1)

supersedes company

9.73 Daimler-Benz

350-1300 A2 B 1033 (2) engine

OM 314

(64 PS - 1) (75 PS - 2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm\$100 strokes 3	Spring pre-tensioning (forque-control valve) mm 6
1000	9	4,5 - 5,0	0,4			
	6 12	1,8 - 2,6 7,3 - 8,2				
200	9	2,0 - 2,8				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

350-1000 A1 B585D (1)

	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflectiors in degrees 7	Lower rev/min 8	rated speed Control rod travel mm		rque control Control rod travel mm
ca.45	1000 1020 1040	16,0 12,0 7,0	witho sprin	out aux	kiliar	ca.16 y	300 200 300	7,3 19 - 21 7,0-7,6	980	0
29	1030 1060 1180	8,0-10,5 4,4-6,0 0,3-1,0		with auxiliary spring			450 600	1,5-4,3 0 - 1	600	0,5-0,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	il-load stop	6 Rotational- speed limitat		iel delivery iaracteristics	Starting I	luel delivery 5			
Test oil te rev/min 1	cm ² /1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm1/1000 strokes	rev/min 8	Control rod travel mm 9	
980	56,0-58,0	1025-1035*	500	50,0-53,0	100	ca.7,9	300	7,3	
								-/-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. c. 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany imprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

Testoil-ISO 41

350-1300 A2 B 1033 (2)

	r rated speed Control rod travel mm		Interme	diate rate	d speed	Control- lever deflection in degrees 7	rev/min ·	r rated speed Control rod travel mm	11 5 7	rque control Control rod travel mm 11
ca.55	1300 1380 1430	16,0 10,9 7,3	with		ıxilian	ca.23 y	350 200 350	7,5 19 - 21 7,2-7,8	1280	0
29	1450	8,5-10,5 4,0- 7,3 0,3- 1,0	with spri	auxil ng	liary		450 600	3,2-5,2 0 - 1		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

C. Settings for Fuel Injection Pump with Fitted Governor

II-load stop			uel delivery naracteristics	Starting f	uel delivery 5	[Control rod		
mp. 40°C (104°F) cm³/1000 strokes	Note: changed to) rev/min	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	travel mm 9	
63,0 - 65,0	1325-1335*			100	sp	eed st	ρp	
	mp. 40°C (104°F) cm³/1000 strokes 2	mp. 40°C (104°F) cm³/1000 strokes 2 speed limitat. Note: changed to) rev/min 3	mp. 40°C (104°F) cm³/1000 strokes 2 speed limitat. Note: changed to) rev/min rev/min 4	mp. 40°C (104°F) cm³/1000 strokes 2 Note: changed to) rev/min rev/min 3 4 5	speed limitat. Note: changed to) rev/min rev/min cm³/1000 strokes 3 characteristics ldle characteristics characteristics characteristics characteristics ldle crev/min crev/min fev/min fev/mi	speed limitat. Note: changed to) rev/min 3	Hoad stop mp. 40°C (104°F) cm³/1000 strokes 2 Rotational- speed limitat. Note: changed to) rev/min rev/min 7 Rotational- speed limitat. (3a) Fuel delivery characteristics Idle rev/min 6 rev/min 7 Rotational- speed limitat. rev/min 6 7 Rotational- speed limitat. Rotational- speed limitat. Rotational- speed limitat. Rotational- speed limitat. Rotational- speed limitat. Rotat	

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	crated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interm	ediate rated	speed	Control- lever defisction in degrees 7	Lowe rev/min 8	rated speed Control rod travel mm	11 0 1	rque control Centrol rod travel mm 11
2 a										

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop	Rotational- speed Friitat.		el delivery eracteristics	Starting f	uel delivery 5		stop Control rod
rev/min	emp. 40°C (104°F) cm³/1000 strokes	changad to) res/min (3	rev/min	cm ³ /1000 strok e s 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9

Checking values in brackets

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 9,2 a 1

1. Edition

PES 5 A 95 D 410 LS 2426

RQV 250-1150 AB 956 L (1) •

supersedes

RQV 750 AB 955 L

(2 **-**3) (4)

RQV 1050 ABV12865

companyMAN engine D 2555 MXE

RQV 250-1050 ABV 12912 (5)

(192 PS - 1)(121 PS - 2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

(133 PS - 3)

A. Fuel Injection Pump Settings

(165 PS - 4-5)

Port closing at prestroke

1,3+0,1

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,5 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQV..956 L (1)

Upper rated s			Intermediate	rated sp	4	Lower rated	speed i	Control rod	Sliding s	leeve travel
deflection	rev/min Control rod travel	Control rod travel	of control		Control rod travel	Degree of deflection of control		travel		· ·
lever 1	mm 2	rev/min (28	lever 4	rev/min 5	mm (4)	lever 7	rev/min 8	mm (3) 9	rev/min 10	mm 11
ca.50	1100 1150 1200 1260	1,0 - 8,	-	-	-	ca. 10	100 250 350 450	9,1-11,0 15,8-8,3 1,6-4,5	450 1100	2,4-3,0 8,7
						3a				

Torque control travel a =

mп

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-red Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel deliv high idle s		Starting Idle switchir	0	Torque- travel	Control rod
rev/min	cm ³ /1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
1	2	3	4	5	6	7 1	8	9
1150 (1)	117,5 - 119,5	1190-1205*			100 Switc 180	149,0-159,0 hing point - 100 min 1		·

Checking values in brackets

* 1 mm less control rod travel than col. 2

RQV...955 L (2 - 3)

deflection of control	revimin Control rodtravel	rev/min	(†a)	rev/min	Control rod travel	Lower rated Degree of deflection of control lever		Control rod travel		mm
Ga.29	725 750 770 800	16,0-23, 9,3-23, 2,5-21,	8	-	-	- 3a	-	-	750	4,6

Torque control trave > *

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod	stop	Rotational-speed (2b) Imitation intermediate speed	Fuel deln high idle s	rery characteristics 5a	Starting to the switching of the switchi		Torque- travel	Control rod
rev/min	cm ³ taps spickes	· _	rev/min	cm [®] /10∂0 strokes	rev/min	cm\$/1000 strokes	rev/min 8	travel mm
(2) 725	98,5-100,5	765-770 *						
(3) 725	111,5-113,5	765-770*						

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Sliding sl	eeve travel
of control	Control rod travel	mm		Degree of deflection of control lever		Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	mm 1
lever		rev/min ((2a)	4	5	6	7	8	9	10	11
1	2	3		·							
						1					
							j		•		
		Ì			1	1				ĺ	
	, N	}								1	
							За				

Torque control travel a =

យាយា

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten	elivery d stop np. 40°C (104°F) 2	intermediate speed	Fuel deliv high idle s	peed 50	Switchin	ng point	travel	Control rod
rev/min	cm³/1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm ⁴ /1000 strokes	rev/min	mm
1	3	3	4	5	6	7	В	9
				İ				
			1		1		•	,
			l				l	
						1		
					ļ		1	
							1	
1				<u> </u>				<u> </u>

Checking values in brackets

Upper rated	speed			Intermediate	rated spe	eed	Lower rated	speed		Sliding sl	eeve travel
Degree of deflection of control lever		Control rod travel mm rev/min		Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3		mm
ca.36		16,4-22, 12,5-17, 8,0-11, 0	0	•	5		(3a)			1050	

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	310P	Rotational-speed (2b) imitation intermediate speed	Fuel deliv	very characteristics 5a speed 50	Starting Idle switchin	\circ	Torque- travel	Control rod
rev/min	cm ⁴ 1000 strokes	rev/min 4a	rev/min	cm ³)1000 strokes	rev/min	cm3/1000 strokes	rev/min	travel mm
1_	2	3	4	5	6	7	8	9
(4) 1050	104, 5-106, 5	1060						

recking values in brackets

B. Governor Settings

RQV 250-1050 ABV 12912 (5)

Upper rated s Degree of deflection	rev/min	Control rod	(la)	Intermediate Degree of deflection		ed Control ro	od	Lower rated Degree of deflection		Control rod	Sliding sl	eeve travel
	rod travel		(2a)	of control lever		mm	4	of control lever	rev/min	mm 3	rev/min	mm 11
ca.50	1100 1150 1200 1260	12,2-16, 7,2-12 1,0-8,0	,2	-	-	-		ca.10	100 250 350 450	7,0-11,0 5,8-8,4 1,6-4,5		0,6-1,2 4,8-5,2 8,7
	.200							За			-	•

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

	stop p 40°C (104°F) 2	intermediate speed (4a)		very characteristics (56) peed (50) cm ³ /1000 strokes	switchir		Torque- travel	Control rod travel
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm-/1000 strokes	6	7	8	9
(5)	2	3	-	<u> </u>	-			
1050	104, 5-106, 5	1060						
							•	
						•		
1					1			

Checking values in brackets

^{* 1} mm less control rod travel than col 2

Testoil-ISO 4113

WPP 001/4 MAN 9,7 q

Edition

(1)

PES 6 A 95 D 410 RS2108

ROV 250-1100 AB905DL

supersedes

company A N

RS2108Y

ROV 250-1100 AB905DL

engine D 2156

D 2356 HM/HMN (2)

(1)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC)

bûtt cinsiirā at bies	Tone	,/ T U,I				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	8,4 - 9,4	0,5			
	6 15	4,0 - 5,0 16,6 - 17,8				
200	9	5,9 - 6,9				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

..905DL + 2108 (1)

ca.50 1140 14,4-17,6 ca.13 100 7,5-10,2 200 0	Upper rated a	peed		Intermediate	rated sp	eed	Lower rated	speed		Sliding s	leeve travel
1200 4,0-10,6 1220 0 - 8 200 5,7-8,5 300 2,5-5,3 600 3	deflection of control	Control rod travel mm	travel (a)	deflection of control		travel mm 4	deflection of control		travel		mm 11
	ca.50	1200 1220	4,0-10,6	-	400	-		200 300	5,7-8,5 2,5-5,3	600	0,5-1,2 3,8-4,1 8,3

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel deln high idle s	peed Sb	eristics 5e	Starting Idle switchin	ng point	Torque- travel	Control od
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 s	trokes	rev/min	mm control- rod travel	rev/min 8	mm .
1100	123, 5-125, 5	1140-1155*	500	max.	119,5	100 250	by		pecifie omer
20 ⁰ 1100	126, 5-128, 5	1140-1155*	500	max.	122,5	Chang 100-1	e-over point 180 min-1		./.

Checking values in brackets

* 1 mm less control rod travel than col. 2

Upper rated s	•	Control rod	(1a)	Intermediate Degree of		Control rod	Lower rated Degree of	-	Control rod	Sliding sl	eeve travel
deflection of control fever		travel mm rev/min	(2a)	deflection of control lever	rev/min	travel mm	deflection of control lever	rev/min		rev/min	mm
1	2	3		4	5	6	 7	8	9	10	11
ca.50	1140 1200 1220 1300	14,4-17 4,0-10 0 - 8 0 - 1	,6	-	•	-	ca.13	100 200 300 410	7,5-10,2 5,7-8,5 2,5-5,3 0		0,5-1 <i>2</i> 3,8-4,1 8,3
							(3a)			-	-

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed (2b) limitation intermediate speed	Fuel deliv high idle s	ery characte peed 5b	eristics (5a)	Starting didle switching	g point	Torque- travel	Control rod
rev/min	cm ⁴ 1000 strokes	rev/min 4a	rev/min	cm ³ /)1000 s 5	trokes	rev/min 6	mm control- rod travel	rev/min 8	travel mm 9
1100	108, 5-110, 5	1140-1155*	500	max.	104,0	100 250	mind. 18To 7,0 by	be sp custo	
20 ⁰ 1100	111,5-113,5	1140-1155*	500	max.	107,0		 ge-over point 180 min ⁻¹		

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

Upper rated	speed			Intermediate	rated spe		Lower rated	speed		Sliding sl	eeve travel
Degree of deflection of control	rev/min Control rod travel	Control rod travel	(la)	Degree of deflection of control	l	Control rod fravel	Degree of deflection of control		Control rod travel		\odot
lever	mm	rev/min	(2a)	lever 4	rev/min 5	mm (4) 6	lever	rev/min 8	mm (3) 9	rev/min	mm 11
-	2	3									
									1		·
							(3a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		intermediate speed			Starting Idle switchir	fuel delivery 6	Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ⁶ /1000 strokes 7	rev/min 8	travel mm 9
								i

Checking values in brackets

WPP 001/4 MAN 9,2 h

Edition

PES 5 A 95 D 410 LS 2445 LS 2445

RQ 250/1050 AB 894 DL (1) RQ 250/1150 AB 839 DL (2)

LS 2445 Z RO 250/1150 AB 839 DL (3)

supersedes

company MAN D 2555MXUM engine: MXUH

(1/3-175 PS)(2-192 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.3 + 0.1

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,6 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1)RO...894 DL

PRG che	g of slider ck Control rod travel mm	Full-load s Setting po rev/min 3			rev/min	4)	Idle spee Setting p rev/min 7	Control rod tr zyc i	Test spe	cifications Control rod travel mm	rev/min	Control rod (3)
600	15,6-16,4	600	16,0	1070 1100 1140 1210	14,8-15 15,2-15 0 - 8, 0 - 1,	,6 ,8		0	100 250 350 440	7,2-8,0 4,8-7,0 1,6-4,0 0	800 1000	15,6-16,0 15,0-15,4
Z	antroi traval							1	090 -	1105 =		1 mm less control

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor co Test oil tem		Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting fuel delivery Idle speed		
rev/min	cm ³ /~1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm	
1050	108,5 - 110,5		800 500	112,0 - 114,0 max. 114,5	100	149,0 - 159,0	
1050 ₂₀ o	110,5 - 112,5		800 500	113,5 - 116,5 max. 116,5	250	7,0 mm RW	
(incr	ease by ± 2,0 cm ³	!)					

Checking values in brackets

RQ...839 DL (2)

PRG che	Control rod travel	Full-load s Setting po rev/min 3	•	_	rev/min	Idle spec Setting p rev/min 7	Control rod travel		Control rod	rev/min	Control rod (3)
600	15,6-16,4	600	16,0	1130 1200 1240 1350	15,0-15,6 10,0-14,2 2,0-8,8 0	1	0	440	7,0-8,0 4,6-6,8 1,6-4,0 0	900 1000	15,8-16,0 15,6-15,8

Torque-control travel on flyweight assembly dimension a =

,2

1190-1205

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting f	Contrai
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min	cm ³ /1000 strokes / mm
1150	114,5 - 116,5		800 500	115,0 - 118,0 max. 116,5	100	149,0 - 159,0
					250	7,0 mm RW
					:	

Checking values in brackets

B. Governor Settings

LS 2445 Z - AB 839 D (3)

Checking PRG che	g of slider	Full-load s Setting po		•	cifications (4)	idle spec	_		cifications (5)	Torque o	(3)
rev/min	Control rod travel mm 2	rev/min	Control rod travel rmm	Control rod travel rnm 5	rev/min	rev/min 7	Control rod travel mm 8	rev/min	Control rod travel mm	rev/min	Control rod travel mm
ŝ00	15,6-16,4	600	16,0	1200	15,0-15,6 10,0-14,2 2,0-8,8 0	540	0	100 250 350 440	7,2-8,0 8,4-7,0 1,6-4,0 0	1	15,6-16,0 15,0-15,4
	1		0 2			1		1190 -	1205 =		1 mm less contro

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation, At

mm less control rod travel

Full-load de governor co Test oil tem	elivery on ontrol lever ap 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for	d Commit
rev/min	cm ³ /-1000 strokes	rev/min	rev/min	cm ³ /-1000 strokes	rev/min	cm ³ /1000 strokes / mm
1150	109,5 - 111,5		800 500	112,0 - 115,0 max. 112,5	100	149,0 - 159,0
1150 60°	112,5 - 114,5		800 500	114,5 - 117,5 max. 115,5	250	7,0 mm RW

Testoil-ISO 4113

WPP 001/4 MAN 11,1 c

3. Edition

PES 6 A 95 D 410 LS 2420Z, Y RQ 250/1150 AB839DL (1-3)

LS 2420

RO 250/1150 AB869DL (4)

LS 2420 Z

RQ 250/1050 AB894DL (5)

supersedes 8.77 company: M A N

engine: D 2556..

MXUH/MXUM (1 - 232 PS)

MUH/MUM (2 - 200 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.3 + 0.1

mm (from BDC)

MXUH/MXUN (3 - 210 PS) MXUM/MXUH (4 - 192 PS)

MXUM/MXUH (5 - 175 PS)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,4 - 8,0	0,4			
200	6	3,2 - 4,2 0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ .. 839 DL (1)

PRG che	Control rod	Full-load s Setting po rev/min 3		rev/min	Idle spee Setting p rev/min 7	Control rod travel	Test spe	cifications 5 Control rod travel mm		Control rod (3) travel mm
600	15,7-16,3	600	16,0	15,0-15,4 10,0-14,4 0 - 9	540	0	150 250 350 440	6,6-8,1 4,5-6,7 1,5-4,0 0	1020	15,8-16,0 15,4-15,6 15,3-15,4

Torque-control travel on flyweight assembly dimension a = 0,2

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten	elivery on ontrol lever ap 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting for Idle spee	COLUMN CO.
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /~1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes/ mm 7
2420 1150 40 ⁰ 1150	+ 839 DL -20 ^C 120,5 - 122,5 117,5 - 119,5	C, col.6-7	800 500 800 500	118,5 - 121,5 max. 121,5 116,0 - 119,0 max. 118,5	100	11,9 - 12,9 (14±0,3 mm RW)

Checking values in brackets

Testoil-ISO 4113

Checking PRG che	g of slider ck Control rod	Full-load s Setting po	-	-	cifications (\sim	idle spee Setting p	-		cifications 5	Torque o	control Control rod
	travel mm	rev/min 3	rod travel	rod travel	rev/min 6		rev/min 7	rod travel	rev/min 9	travel	1	travel mm 12
600	15,7-16,3	600	16,0	1170 1200 1250 1320	15,0-15 10,0-14 0 - 9	,4		0	150 250 350 440	6,6-8,1 4,5-6,7 1,5-4,0 0	1020	15,8-16,0 15,4-15,6 15,3-15,4
										4005	<u> </u>	

Torque-control travel on flyweight assembly dimension a

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics (3b)	Starting for	d Control
rev/min	cm ³ /-1000 strokes	rev/min	rev/min	cm ³ /-1000 strokes	rev/min	rod travel cm ³ /1000 strokes / mm 7
2420Z	+ 839 DL - 20 ⁰	and the second s				
1150	106,0 - 108,0	*	800 500	108,0 - 111,0 max. 106,5	100	11,9 - 12,9 (14+0,3 mm RW)
40 ⁰			1	; †	250	7 mm RW
1150	103,0 - 105,0		800 500	105,5 - 108,5 max. 103,5		

Checking values in brackets

B. Governor Settings

RQ .. 839 DL (3)

Checkini PRG che	Control rod travel	Full-load : Setting po rev/min		rev/min	Control rod travel	Test spe	cifications Confrol rod travel	Torque o	Control rod travel mm
600	15,7-16,3	600	16,0	I .	0	150 250 350 440	6,6-8,1 4,5-6,7 1,5-4,0	1020	15,8-16,0 15,4-15,6 15,3-15,4
			0.2		1	190 -	1205 =		1 mm less contr

Turque-control travel on flyweight assembly dimension a =

rod travel

Full-load de governor c Test oil ten	elivery on ontrol lever pp 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics (3b)	Starting for	Control
rev/min	cm³/-1000 strokes	rev/min 3	rev/min	cm³/=1000 strokes	rev/min 6	cm ³ /1000 strokes / mm 7
2420Y	+ 839 DL - 20°					
1150	109,5 - 111,5	* C, col.6-7	800 500	109,0 - 112,0 max. 112,0	100	11,9 - 12,9 (14+0,3 mm RW)
40 ⁰			300	111ax. 112,0	250	7 mm RW
1150	106,5 - 108,5		800	106,5 - 109,5		
			500	max. 109,0		

RQ.. 869DL (4)

	g of slider	Full-load	•	-		idle spec	-			Torque o	\sim
PRG che rev/min 1	Control rod travel	rev/min	Control rod travel mm	Control rod travel mm 5	rev/min	Setting prev/min	Control rad travel	rev/min	Control rod travel mm		Control rod travel mm 12
600	15,7-16,3	600	16,0		15,6-16,0 11,0-15,0 0 ~ 9,6 0	550	0	120	6,5-8,1 4,7-6,9 1,7-4,2 0	-	-
		<u> </u>				<u> </u>	L	100	1205		

Torque-control travel

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for	uel delivery d Control
rev/min	cm ² /-1000 strokes	rev/min	rev/min	cm ³ /-1000 strokes	rev/min	red travel cm ³ /1000 strokes / mm 7
2420	+ 869 DL - 20 ⁰					
1150	124,5 - 126,5	*	500	max. 121,5	100	11,9 - 12,9 (14±0,3 mmRW)
40 ^O					250	7 mm RW
1150	121,5 - 123,5		500	max. 118,5		

Checking values in brackets

B. Governor Settings

RQ.. 894DL (5)

	Full-load speed re Setting point Control rod travel rev/min 3		4 Setting p	Control rod travel	Test spe	cifications 5 Control rod travel mm	Torque o	Control rod travel
600 15,7~18,3	600 16,0	1079 1100 1140 1140 1200 14,8-15 8,4-13 0 - 8	,5	0	100 250 350 440	7,1-8,1 4,7-6,9 1,6-3,9 0		15,8-16,0 15,0-15,2

Torque-control travel on flyweight assembly dimension a =

Speed regulation At 1090 - 1105 =

1 mm less control

	elivery on ontrol lever p 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for	uel delivery d j Control
rev/min	cm ³ /-1000 strokes	rev/min	rev/min	cm³/-1000 strokes	rev/min	cm ⁵ /1000 strokes / mm
2420Z	+ 894 DL-20°					
1050	91,5 - 93,5	* C, col. 6-7	800 500	93,0 - 96,0 max. 92,5	100	11,9 - 12,9
40 ^O					250	7 mm RW
1050	88,5 - 90,5		800 500	90,5 - 93,5 max. 89,5		

MAN 11,1 c

Checkin PRG che	•	Full-load : Setting po	•	_	cifications (4)	idle spec	ooint		cifications (5)	Torque o	(3)
rev/min	Control rod travel mm	rev/min	rod travel mm	Control red travel rmm 5	rev/min	rev/min	Control rod travel mm 8	rev/min	Control rod travel mm	rev/min	Control rod travel mm
600	15,7-18,3	600	16,0	1070 1100 1140 1200	14,8-15,2 8,4-13,5 0 - 8,8 0	540	,	100 250 350 440	7,1-8,1 4,7-6,9 1,6-3,9	750 1050	, -
	ontrol travel ght assembly dimer	nsion a =	0,3	mm	Spe	eed regula		090 -	1105	e ; ghe rea an an ann ann an t-rai	1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever p 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	6	Starting for	d Control
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	i	rev/min	rod travel cm ³ /1000 strokes / mm 7
2420 1050	+ 894DL 101,5 - 103,5	*	700	100,0 - 103,0	•	100	11,9 - 12,9
		4 to 10 to 1	500	max. 103,5	:	250	7 mm RW

Checking values in brackets

B. Governor Settings

RQ		8	9	4	D	L
	_	_	_			_

Checking PRG che		Full-load s	oint	Test spec	cifications (4)	idle spec	point		cifications 5	Torque o	ontrol Control rod
rev/min	Control rod travel mm 2	rev/min	Control rod travel rmm 4	Control rod travel mm 5	rey/min	rev/min	Control rod travel rnm 8	rev/min	travel mm	t .	travel mm
600	15,7-18,3	600	16,0	1070 1100 1140 1200	14,8-15,2 8,4-13,5 0 - 8,8		0	250	7,1-8,1 4,7-6,9 1,6-3,9	750 1050	15,8-16,0 15,0-15,2

Torque-control travel on flyweight assembly dimension a =

0,3

Speed regulation 2,090 - 1105

1 mm less control rod travel

	elivery on ontrol lever pp 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting to	Control
rev/min 1	cm ³ /~1000 strokes	rev/min	rev/min	cm³/-1000 strokes 5	rev/min	rod travel cm ³ /1000 strokes / mm 7
2420Z 1050	+ 894 DL-20° 91,5 - 93,5	* C, col.6-7	800 500	93,0 - 96,0 max. 92,5	100	11,9 - 12,9
40° 1050	88,5 - 90,5		800 500	90,5 - 93,5 max. 89,5	250	7 mm RW

Test Specifications 2 Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 12,8 c

1. Edition

PE 8 A 95 D 320 LS2421

RQ 250/1200 AB928DR

supersedes

RO 250/1150 AB940DR (2)

(1)

company: M A N engine: D 2548 M/MF (1)

D 2538 MTF

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,65-1,85)

mm (from BDC)

Cy1.8

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,6 - 8,0	0,4			1
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ..928DR (1)

Checking PRG che rev/min 1	ck Control rod travel	Full-load s Setting po rev/min 3	•	_	rev/min		ooint Control [rod travel	Test spe	Control rod travel		Control rod travel mm
600	15,6-16,4	600	16,0	1220 1260 1300 1370	15,6-16,0 9,5-14,0 0 -9,5 0 -1,5		0	150 250 350 440	6,7-8,1 4,8-6,9 1,6-4,0 0 - 1	-	-
		<u> </u>	0	1	<u></u>	<u> </u>		245 -	1260 =	1	1 mm less control

Torque-control travel on flyweight assembly dimension a =

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten	elivery on ontrol lever on 104°F)	Control rod stop 3	ery characteristics	/O: \	Starting for Idle spee	d Control red travel	
rev/min	cm ³ /~1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	cm³/1000 strokes / mm
1200	110,5 - 112,5				•	100 250	18,2-18,8 7,0

Checking values in brackets

RQ..940DR (2)

2

PRG che	ck Control rod Itravel	Full-load's Setting po revimin 3			rev/min	Idle spee Setting p rev/min 7	•	Test spe	cifications (5) Control rod travel mm	revimin	Control rod 3
600 1190	19,2-20,8 Breakaway	600 (Con leve ca.4	tro1 r	1170 1210 1250 1320	18,4-18,8 10,2-16,0 0 - 10 0 -1,5		0	150 250 350 440	9,2-11,7 6,4-9,7 2,2-5,8 0 - 1		19,7-20,0 18,8-19,2

Torque-control travel on flyweight assembly dimension a

0,3

1195 - 1210 =

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten		Control rod stop (3a)	Fuel delive	(25)	Starting fuel delivery Idle speed Control		
rev/min	cm ³ /-1000 strokes 2		rev/min	rev/min 4	cm ³ /-1000 strakes 5	rev/min	cm ³ :1000 strokes / mm 7
LDA 1150	0,5 bar 122,5 - 124,5	j .		LDA 800 LDA 500	0,5 bar 126,5 - 130,5 0 bar 84,5 - 86,5	100 250	18,2-18,8 * 7,0
	Briefly switc	:h d	n starting sol	noid 2	4 V !		

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Test at n = 800 rev/min decreasing pressure - in bar gauge pressure

restatii -	000			
Pump/governor		Setting	Measurement	diminution Control rod travel:
		Gauge pressure = bar	Gauge pressure : bar	mm
2421	 940DR	0,25		- 0,2 - 0,3
			0,15	- 0,9 - 1,1

Notes

(1) when a =

En

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 2 and Governors

VDT-WPP 001/4 MAN 9,2 a

6. Edition

PES 5 A 95 D 410 LS 2426 Z

RQ 250/1150 AB 839 DL

supersedes 3.84 MAN

D 2555 M/MF

Komb.-Nr. 0 400 845 022 = MAN-Nr. 1-7528

124 kW/2300 min-1

1 - 3 - 5 - 4 - 2 je $72^{\circ} + 0,5^{\circ} (+ 0,75^{\circ})$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Testor-ISO 4113

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery m³/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,5 - 8 0	0,4			_
1000	6	3,2 - 4,2				
200	6	0,5 - 1,4				
200	D	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

E. Governor Settings

Checkin PRG che		Fill-load s	•	_	cifications (4)	Idle spec	_		cifications (5)	Torque control	
rev/min	Control®uc travel mm 2	rev/min	rod travel	Control red travel mm 5	rev/min	rev/min 7	Control rod travel mm	rev/min 9	Control rod travel mm	rev/min 11	Control rod travel mm
600	15,7-16,3	600	16,0		15,0-15,4 10,0-14,4		0	150 250	6,6-8,1 4,5-6,7		15,8-16,0 14,4-15,6
	\ \ \			1250 1320	1			350 440	1,5-4,0	1000	15,3-15,4
	control travel	nsion a =	0,2) mm	Sp	eed regul		190 -	1205 min	 	1 mm less contr rod trav

on flyweight assembly dimension a = C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil terr		Control rod stop 3a	Fuel delive	ery characteristics	Starting fuel delivery Idle speed Control		
rev/min 1	cm ³ /-1C°C strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm ³ /1000 strokes:// mm	
1150	100.5 - 102,5 (98,5 - 104,5)	-	800 500	104,0 - 107,0 (102,0 - 109,0) max. 103,5 (max. 105,5)	100	146,5-156,5 =15,7- 16,3 mm RW	

Checking values in brackets

10.85

B. Go	overnor S	etting	38			+ 2426 Z						
Checking of slider PRG check Control rod travel rev/min mm		Full-load speed regulation Setting point Test specifications Control Control rod travel rev/min mm rev/min			rev/min	Setting	l lie speed regula Setting point Control red travel		Test specifications Control rod		Torque control Control rod travel rev/min mm	
1	2	3	4	5	6	7	8	9	10	11	12	
600	15,7-16,3	600	16,0	1170 1200	15,0-15,4 10,0-14,4	Į.	0	150 250			15,8-1 15,4-1	
				1250 1320	1		!	350 440		1100	15,3-1	5,4
								1100	4005		1 mm less o	

Torque-control travel on flyweight assembly dimension a =

0,2

Speed regulation At 1190-1205

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever ap 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm 7	
2426Z 1150	100,5 - 102,5		800	104,0 - 107,0	100 250	11,9 - 12,9 7 mm RW	
			V C C C C C C C C C C C C C C C C C C C			./.	

Checking values in brackets

B. Governor Settings

Checking PRG che	g of slider ck (1	Full-load Setting p			cifications (4)	Idle spec	-		cifications (5)	Torque control	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel	rev/min	:	rev/min	i e
1	2	3	4	5	6	7	8	9	10	11	12
								1			
								!			
			1								1
				ĺ						İ	
										ĺ	
!							i	İ			
			1	1			1		!		

Torque-control travel on flyweight assembly dimension a =

Speed regulation At

1 mm less control

	lelivery on control lever mp 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics		Starting full	uel delivery d Control
rev/min	cm ³ /-1000 strokes	rev/min	rev/min	cm²/-1000 strokes	1	rev/min 6	red travel cm ³ /1000 strokes / mm 7
		4 1 1 1					

MAN 9,2a

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Sliding sl	eeve travei
Degree of deflection of control lever	Control roditravel mm	Control rod travel mm rev/min	(a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm 11
ca.50	1170 1220 1280 1350	1,0-	1,0				ca.13	50 150 250 350 410	7,7-11,0 6,6- 9,8 4,2- 7,2 0 - 3,4	480 800 1180 1100	0,5-1,2 3,2-4,0 5,0-5,4 0 0 0,3-0,5

Torque control travel a =

0,4 mm

C. Settings for Fuel Injection Pump with Fixted Governor

Full-load de Control-rod Test oil tem	stop	Rotational-speed (2b) ilmitation intermediate speed	Fuel deliv high idie s	ery characteristics 5a peed 5b	Starting I Idle switchin		Torque- travel	Control cod
rev/min	cm ⁴ 1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9
1150	114,5-116,5	1190-1205 ⁺	800 500	115,0-118,0 max. 226,5	250 ***	119,0-129,0 7 mm RW 100 min ⁻¹		
	,							

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

850 D + 2426 Z

Upper rated s Degree of	rev/min	Control rod	(1a)	Intermediate Degree of deflection	rated spe	ed Control rod travel	Lower rated Degree of deflection	speed	Control rod	Sliding sl	eeve travel
	rod travel mm	travel mm rev/min	(2a)	of control lever	rev/min	mm 4	of control lever	rev/min	mm 3	rev/min	mm 11
ca.50	1170 1220 1280 1350	1,0-	4,0				ca.15		7,7-11,0 6,6- 9,8 4,2- 7,2 0 - 3,4	480 800	0,5-1,2 3,2-4,0 5,0-5,4 8,4
							(3a)	410		500	0,3-0,5

Torque control travel a =

0.4

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem rev/min	livery stop p 40°C (104°F) 2 cm³/1000 strokes	Rotational-speed (20) Imitation intermediate speed (4a)	Fuel deliv high idle s rev/min	ery characteristics (58) peed (56) cm ³ /1000 strokes		ng point cm ³ /1000 strokes	rev/min	Control rod' travel mm
1150	109,5-111,5	1190-1205 [†]	800 500	112,0-115,0 max. 112,5	250 ***		oint	
** (in	crease by ± 1	,0 cm ³ !)						

Checking values in brackets

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 MAN 11,1 p 5

En Edition

stoil-ISO 4113

PES 6 A 95 D 410 LS 2542 RQ 250/1100 AB 1052 DL

supersedes

10.79

company:

MAN-SAVIEM

engine:

D2566 MSH

(177,0kW-241PS)

All test specifications are valid for Bosch Fuel Injection Fump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,50-1,60 (1,45-1,65) mm (from BD)

Rotational speed	· · · · · · · · ·	Fuel delivery cm ³ /100 strokes	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve)
1100	12.0-12.1	12,5 - 12,7	0,3(0,6)			
250	5,9-6,1	0,8 - 1,4	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	Control rod travel	Full-load s Setting po rev/min 3			rev/min	Idle spee Setting p rev/min 7	Control rod travel	Test spe	Control rod travel mm	4	Control rod travel mm
600 Cont	19,2-20,8 rol lever 46°	600	20,0	11,0 4,0 1300			6,0	250 500	min.7,5 5,9-6,1 max.1,0 375=2,0		

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load del governor co Test oil tem		Control rod stop 3a	Fuel delive	ery characteristics	Starting f	Control
1	cm ³ /~1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	rad travel cm ³ /1000 strokes:/ mm 7
1100	124,5 - 126,5 (122,5 - 128,5)		500	max. 113,5 (max. 115,5)	100	125,0 - 135,0 14,0-14,6 mm RW

Checking values in brackets

10,82



Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 11,1 k

Edition

PES 6 A 95 D 410 LS2489 RQ 250/1050 AB894D LS2489Z RQ 250/1050 AB894D ./. supersedes 2.76 MAN company: D 2566 MUH (192 PS)

> D 2566 MUH/M (175 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC) Port closing at prestroke

Rotational speed rev/min		Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 5
1050	10,0	10,3 - 10,4	0,3 (0,6)	9,5	8,9 - 9,1	
i de la companya de l	(+0,1)			(+0,1)		
250	6,0 (+0,1)	1,2- 1,8	0,3 (0,5)	(±5,9 (±0,1)	0,9 - 1,3	
700/500 -	Sect. C	col. 4,5	0,4 (0,7))		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG che	ck Control rod travel			Test spec Control red travel		 Control rod travel	Test spec	Control rod travel	rev/min	Control rod travel
600	15,7-16,3	600	16,0	1070 1100 1140 1200	14,8-15,2 9,4-13,5 0 - 8,8 0	0	100 250 350 440	7,1-8,1 4,7-6,9 1,6-3,9		15,8-16,0 15,0-15,2

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor d Test oil ten	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for Idie spee	i Control
rev/min	cm ³ /-1000 strokes	rev/min	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	ret travel cm ³ /1000 strokes: / mm 7
1050	101,5 - 103,5		700	100,0 - 104,0	100	11,9 - 12,9
	(99,5 - 105,5)			(98,0 - 106,0)	250	6,0 mm RW
			500	99,5 - 103,5		
				(97,5 - 105,5)		

Checking values in brackets

8.77

BOSCH

Checking PRG chec rev/min 1		Full-toad s Setting po rev/min 3		Test spec Control rod travel	rev/min	Idle spee Setting p rev/min 7	_	Test spe	Control rod travel mm	Control rod travel mm
600	15,7-16,3	600	16,0	1070 1100 1140 1200	14,8-15,2 9,4-13,5 0 - 8,8 0	530	0	100 250 350 440	7,1-8,1 4,7-6,9 1,6-3,9 0	15,8-16,0 15,0-15,2

Torque-control travel on flyweight assembly dimension a

0,3

Speed regulation At 1095-1110(1090-1115)

mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

la	Full-load delivery on governor control lever rest oil temp 40°C (104°F)		Control rod stop	Fuel deliv	very characteristics	Starting to	Control
re	ev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min	cm ³ /1000 strokes / mm
	1050	87,5 - 89,5		800	91,5 - 94,5 (89,5 - 96,5)	100	11,1 - 11,9
		(85, 5 - 91, 5)		500	84,5 - 88,5 (82,5 - 90,5)	250	6,0 mm RW
	1050	89,5 - 91,5		800	91,0 - 94,0	-	
				500	83,5 - 87,5		

Checking values in brackets

B. Governor Settings

Checking of slider PRG check Control rod travel rev/min mm	Full-load speed re Setting point Control rev/min mm 3 4	gulation Test specifications Control red travel mm rev/min 5 6	Setting point Control rev/min 7 Control rad travel mm R	Test specifications Control rod	Control rod travel mm 11 12

Torque-control travel on flyweight assembly dimension a

mm

Speed regulation At

1 mm less control rod travel

Full-load delivery on governor control lever Test oil temp 40°C (104 °F)		Control rod stop	Fuel delive	ery characteristics (3b)	Starting for	Control	
rev/min	cm³/-1000 strokes	rev/min	rev/min	cm³/-1000 strokes	rev/min	rod travel cm ³ /1000 strokes / mm 7	
	4						
			and also beginning the form				
			and the same of th	A decision of the second of th			
		<u> </u>	-				

estoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 11,1 g 1

Edition

supersedes 8.77 RO 250/1100 AB839DL (1)PES 6 A 95 D 410 LS2485Z MAN company: D 2566 .. RQ 250/1100 AB839DL (2) LS2485Y engine: (1- 220 PS) MSFV RQ 250/1100 AB965DL (3)LS2485Y MFO/MFOR (2- 220 PS) (3-200 PS)MFO/MFOR

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC) Port closing at prestroke (1,45-1,65) Spring pre-tensioning Fuel delivery Z, Y + 839DL Control rod Fuel delivery Difference Control rod Rotational speed (torque-control valve) Y + 965DL travel travel cm³/ cm³/100 strokes l mm 100 strokes mm

rev/min	mm 2	3	4	2	3	6
1100	11,2+0,	11,2 - 11,4	0,3(0,6)	10,0	10, 1 - 10, 3	1
				(+0,1)		
250	5,9-6,1	1,1 - 1,7	0,3(0,5)			
		u		<u> </u>		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

839DL (1)

PRG che		Full-load s Setting po		Test spec Control rod travel	rev/min	idle spee Setting p	Control rod travel		cifications 5 Control rod travel	rev/min	Control rod travel
600	15,6-16,4	600	16,0	10,2 4,0 1300	1145-1160 1175-1205 0 - 1,0		6,0	250	min. 7,5 5,9-6,1 400 = 2,0 max.1,0	800	11,2-11,3 11,5-11,6 11,5-11,7
Torque-C	control travel		0,2			eed recul			160 min ⁻¹		1 mm less contro

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor co Test oil tem		Control rod stop 3a	Fuel delive	ery characteristics (3b)	Starting for	d Control red travel
rev/min	cm ³ /-1000 strokes	rev/min	rev/min	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes:/ mm 7
1100	112,0 - 114,0 (110,0 - 116,0	-	800 500	114,5 - 117,5 (112,5 - 119,5) 111,0 - 114,0 (109,0 - 116,0)	100 250	114,0-120,0 (111,0-123,0) 6,0

Checking values in brackets

1 4 00305 (4)	Y	+	839DL	(2)
---------------	---	---	-------	-----

ntrol
control rod avel om 2
1,2-11,3
1,5-11,6
2

Torque-control travel on flyweight assembly dimension a

0,2

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor o Test oil ten	elivery on control lever np 40°C (104°F)	Control rod stop	Fuel delive	ery characteristics	(つし)	Starting fi Idle spee	Control
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 strokes / mm 7 mm RW
1100	112,5 ~ 114,5 (110,5 ~ 116,5)		800	114,5 - 117, (112,5 - 119,		100	13,0-13,6
			500	110,5 - 113, (108,5 - 115,		250	6,0
		· · · · · · · · · · · · · · · · · · ·		!			

Checking values in brackets

B. Governor Settings

Y + 965DL (3)

Checkini PRG che	g of slider	Full load s		-	cifications (4)	idle spec	-		cifications (5)	Torque o	(3)
rev/min	Control rod travel mm	rev/min 3	Control rod travel mm	Control rod travel rom 5	rev/min	rev/min	Control rod travel mm 8	rev/min 9	Control rod travel mm	rev/min 11	Control rod travel mm
600	15,6-16,4	600	16,0	9,0 4,0			6,0		min.7,9 6,3-6,5	-	•
1100 1300		ay		1,0					20 = 2.0		
		1									

Torque-control travel on flyweight assembly dimension a

Speed consistion At

1 mm less control rod travel

Full-load degovernor dest oil ten	elivery on ontrol lever p 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting for	Control
rev/min	cm ³ /-1000 strokes	rev/min	rev/min 4	cm³/-1000 strokes	rev/min	cm ³ /1000 strokes / mm 7
1100	99,5 - 101,5 (97,5 - 103,5)		500	86,5 - 91,5 (84,5 - 93,5)	100 250	13,6-14,2
				E CONTRACTOR OF THE CONTRACTOR		

Test Specifications Fuel Injection Pumps ② and Governors 40

WPP 001/4 MAN 11,1 f

1. Edition

En_

PES 6 A 95 D 410 LS2489Z

RQ 250/1100 AB 839D

supersedes

company: M A N

engine: D 2566 MXUM(220PS)

MXUH`

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,5 - 1,6

mm (from BDC)

(1,45-1,65)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) ,nm 6
1000	9	7,4 - 8,0	0,3			
	6	3,2-4,2	(0,0)			
200	6	0,5 - 1,4				
1						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG che rev/min 1	ck Control rod travel	Full-load s Setting po rev/min 3		Test spec Control rod travel		Idle spec Setting p rev/min 7	Control red travel	Test spe	cifications Control rod I travel	rev/min	Control rod (3) travel mm
600	15,7-16,3	600	16,0	1100 1150 1200 1250	15,1-15,4 9,0-14,0 0 - 7,2 0	540	0	200	6,9-8,1 5,6-7,6 3,3-5,5 0	1	15,8-16,0 15,3-15,5

Torque-control travel on flyweight assembly dimension a =

am.

Speed regulation: At

mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a	Fuel delive	11, 01, E. E. E. E. E. E. E. E. E. E. E. E. E.	Starting for Idle spee	d Control rad travel
	rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm³/100 © strokes:/ mm
20 ⁰	1100	114,5 - 116,5		700 500	110,5 - 113,5 max. 116,0	100	111,0 - 119,0
40 ⁰	1100	112,0 - 114,0		700 500	107,0 - 110,0 max. 113,0	250	6,0 mm RW
	L	<u></u>	<u> </u>	1	<u></u>	<u></u>	0.76

Checking values in brackets

2.76

BOSCH

DAG

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPF 001/4 MAN 9,2 m

1. Edition

En

PES 5 A 95 D 410 LS2543

RSV 250-1100 A1 B1124L

supersed€s

company RVI-SAVIEM engine MAN D2565MSFV

1 - 3 - 5 - 4 - 2 0 -72 -144-216-288°

 $\pm 0,50 (\pm 0,75)$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,50-1,60 (1,45-1,65)

mm (from BDC)

Cy1. 5

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm³/100 strokes 3	cm ² / 100 strokes 4	mm 2	cm ³ /100 strokes	mm 6
1100	12,0-12,1	11,7 - 11,9	0,3(0,6)			
250	7,4-7,6	0,9- 1,5	0,3(0,5)			
750/500		C, 4-5	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed	l rev/min	Interm	ediate rat	ed speed	(4)	Lower	rated speed	(3) to	rque contro!
Degree of deflection of control lever 1	Control rod travel mm	Control fod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800 X =	0,3-1,0 3,5				ca.21	250 100 250	7,0 min. 19 7,4-7,6	1100 930	12,0-12,1 12,3-12,5
ca.57		150=11,0 190=4,0 = 0,3-1,7					455-515 575	2,0 0-1	550	12,6-12,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Full-load stop		Rotational- speed limitat		iel delivery jaracteristics	Starting fuel delivery 5 4a Idle stop			
Test oil ti rev/min 1	emp 40°C (104°F) cm³/1000 strokes	Note changed to) rev/min 3	rev/min	cm:/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
1100	115,5 - 117,5 (113,5 - 119,5)	1140-1150	750	110,5 - 113,5 (108,5 - 113,5)	100	149 - 159		
			500	max. 111,5 (113,5)				

Checking values in brackets

* 1 mm less control rod travel than col 2

10.79

BOSCH

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 9,2 g

1. Edition

PES 5 A 95 D 410 LS 2503

RQ 250/1050 AB 839 DL

supersedes

company: MAN

D 2565 MUH

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
1050	10,9	3 11,3 - 11,5	0.3 (0.6)	2	3	6
1030	(+0,1)	11,3 - 11,3	(0,0)			
250	5,5-5,7	0,6-1,2	0,3 (0,5)			
800/500	Sect. C	col. 4,5	0,4 (0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PF	G chec	x Control rod trayel	Full-load s Setting po rev/min 3		Test spec Control red travel	rev/min	Idle spec Setting p rav/min 7	Control rod travel		Control rod		Control rod travel
	600	15,6-16,4	600	16,0	9,9	1095-1110	250	5,6	100	mind. 7,1	1050	10,9-11,0
	1070	15,0-15,4			4,0	1130-1160			250	5,5 - 5,7	800	11,2-11,4
	1250	0 - 1							330-	390=2,0	500	11,4-11,6
									450	0 - 1		

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten	elivery on ontrol lever ap. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting for	Control
røv/min 1	cm³/-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes:/ mm 7
1050	111,5 - 113,5 (109,5 - 115,5)		800 500	113,0 - 116,0 (111,0 - 118,0) 111,5 - 114,5	100	13,7 - 14,3
.1050 (20 ⁰)	114,5 - 116,5		800 500	(109,5 - 116,5) 115,0 - 118,0 114,5 - 117,5	250	6,0

Checking values in brackets

Test Specifications 2 Fuel Injection Pumps 2 NPP 001/4 MAN 9,7 m 1 and Governors

2. Edition

PES 6 A 95 D 420 LS2328

RO 200/1100 AB782DR

supersedes 3.76 MAN company:

* When performing repairs, all motors D 2356 HMXU must be changed to D 2356 HMYU in accordance with test

specifications below! Assy. No. 0 400 846 239

D 2356 HMYU* engine: (220 PS)*

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Festoil-ISO 4113

2.0 + 0.1

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7.5 - 8.0	0,5			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	g of slider ck Control rod travel mm 2	Full-load s Setting po rev/min 3	oint Control	Test spec Control rod travel	rev/min		coint Control red travel	Test spe	cifications 5 Control rod travel	rev/min	Control rod	3
600	15,7-16,3	600	16,0	1120 1150 1180 1240	15,6-16,0 9,0-14,2 0 - 16 0	550	0	100 200 300 450	6,6-8,1 5,4-7,3 3,3-5,3 0	-	-	

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor o Test oil ter	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive		Starting full	Control
rev/min	cm ³ /-1000 strokes	rev/min	rev/min 4	cm ³ /-1 000 strok e s 5	rev/min 6	red travel cm ³ /1000 strokes:/ mm 7
1100	125,5 - 127,5 (123,5-129,5)	500	300	125,0 - 128,0 (123,0-130,0)	100	14,0-14,4 mm
			500	max. 122,5 (max. 124,5)	500	6,5 mm

Checking values in brackets

3.85

WPP 001/4 MAN 7,2 i

Edition

En

PES 6 A 85 D 410 RS2139

EP/RSV 325-750 A7 B 536DL

supersedes

company

MAN

engine

D 0836 HM

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

m .

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever		Control rod	Intermediate Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rated spe rev/min 8	ed Control rod travel mm		que control Control rod travel mm
ca.44	750 770 790	16,0 11,8 7,2	withou spring		iliary	ca.19	325 100 325	6,0 19 - 21 5,7-6,3	750 400	0 0,4-0,6
5	780 850 920	7,2-10,2 1,6-3,4 0,3-1,0	with a spring		ary		400 550	3,3-4,6 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	ad stop	6 Rotational- speed limitat.	3a) Fue cha	el delivery tracteristics	Starting	fuel delivery	(5a) idie	stop
Test oil temp rev/min 1	0. 40°C (104°F) cm³/1000 strokes	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
750	52,5 - 54,5	780-790 *			100	mind. 20 mm RW		

Checking values in brackets

* 1 mm less control rod travel than col. 2

3.76

Testoil-ISO 4113

WPP 001/4 MAN 5,9 g

En 1. Edition

PE 6 A 65 D 410 RS 1059

EP/RSV 325-750 A1 B537DL

supersedes

companyM A N

engine: D 0026 M - TME

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.9 - 2.0

mm (from BDC)

max. RW

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,9 - 4,2	0,3			1
	6 12	1,1 - 1,8 5,8 - 6,5				
200	6	0,6 - 1,3				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper of deflection of control lever	rated speed rev/min	Control rod travel mm	Intermediate Degree of deflection of control lever	ed Control rod travel mm	4 Lower Degree of deflection of control lever 7	rated spe rev/min 8	ed Control rod travel mm 9	\sim	que control Control rod travel mm 11
ca.44	750 770 790	16,0 11,8 7,2	withou spring	iliary	ca.19	325 100	6,0	l	0 0,4-0,6
(5)	780 850 920	8,2-10,2 1,6-3,4 0,3-1,0	with a spring	ıry		325 400 550	5,7- 6,3 3,3- 4,6 0 - 1,0	•	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-loa	d stop	6 Rotational- speed limitat.		l delivery racteristics	Starting Idle	fuel delivery	(5a) Idle	
	1	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9 .
750	56,0 - 58,0	760-770			100	nin.20mm RW		
- Re-	heck on engi	e!!						

Checking values in brackets

* 1 mm less control rod travel than col. 2

1.79

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 MAN 3,9 b

Edition

En

PE 4 A 65 D 410 RS 1072 EP/RSV 325-750 A1 B537DL

supersedes

company:

MAN D 0024 M .. engine:

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
	6	1,4 - 2,1				
1000	12	5,7 - 6,2	0,4			
	18	9,7 - 10,6				
200	6	0,8 - 1,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever	rated spee	Control rod travel mm	Intermediate Degree of deflection of control lever	rev/min	Control rod travel mm	4 Lowe Degree of deflection of control lever 7	rev/min	ced Control rod travel mm 9	(3) Tor rev/min 10	que control Control rod travel mm
ca.41	750 800 830	16,0 10,1 5,3	withou spring		iliary	ca.24	325 150 325	6,0 19,0-21,0 5,7-6,3	730 400	0 0,4-0,6
5	820 900 1010	3,3-8,8 0,8-3,2 0,3-1,0	with a spring		ary		400 580	3,7-4,8 0 -1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-los	ad stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting Idle	fuel delivery	(5a) idle stop		
Test oil temp rev/min 1	cm ³ /1000 strokes	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9	
750	39,5 - 41,5	765-775							

Checking values in brackets

* 1 mm less control rod travel than col. 2

8.77

WPP 001/4 MAN 9,2 1

1. Edition

PES 5 A 95 D 410 LS 2544 RQ 250/1100 AB1039DL (1)

LS 2544

250/1050 AB1042DL (2)

supersedes company M A N

engine. D 2565 MUH

(2 - 129 kW - 175 PS)

1 - 3 - 5 - 4 - 2 $\stackrel{+}{}_{-0}$, 50 0 - 72-144-216-288° ($\stackrel{+}{}_{-0}$, 75) All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,45-1,65)

mm (from BDC)

Cv1. 5

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11.0	11,8 - 12,0	0,3(0,6)	10.5	10,9 - 11,1	- 1050/min
	+0,1			+0,1		
250	5,9-6,1	0,9-1,5	0,3(0,5)	5,9-6,1	0,8 - 1,4	
750/500		C, 4-5	0,4(0,7)	ga 63 48		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1)

PRG che	ck Control rod travel	Full-load s Setting po rev/min 3	eint Control	Test spec Control red travel	rev/min	Idle spec Setting p rev/min 7	Control rod travel		cifications 5 Control rod trave' mm	rev/min	Control rod (3)
600	15,6-16,4	600	16,0	10,0	1145-1160	250	6,0	100	min.7,5		± 0,1
								250	5,9-6,1	1100	11,0
				4,0	1180-1210			0.55			
1100	10,3-11,2							500	395 = 2,0	790	11,6
1300	0 - 1							300		550	11,9

Torque-control travel on flyweight assembly dimension a =

Festoil-ISO 4113

0,3 _{mm}

Speed regulation. At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for	d Contrai
r ev /min 1	cm³/-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes	rev/min	red travel cm ³ /1000 strokes:/ mm 7
(1) 1100	116,5 - 118,5 (114,5 - 120,5)		750	111,5 - 114,5 (109,5 - 116,5)	100	149,0 - 159,0
			500	max. 111,5 (113,5)	250	6,0 mm RW
						./.

Checking values in brackets

7.78

BOSCH

PRG che	Control rod travel	Full-load s Setting po rev/min 3	•	-	rev/min	Idle spec Setting p rev/min 7	-		cifications 5 Control rod travel mm	rev/min	Control rod (3)
600	15,6-16,4	600	16,0	9,5	1095-1110		6,0	100 250	min. 7,5 5,9-6,1	1050	± 0,1 10,5
1050	10,4-10,6			4,0	1170-1200			1	400 = 2,0		11,1
1250	0 - 1							430	UII	600	11,4

Torque-control travel on flyweight assembly dimension a 0,3

Speed regulation At

1 mm tess control

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten	elivery on ontrol lever np 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Co		
rev/min 1	cm ³ /-1000 strokes	rev/min	rev/min	cm ³ /-1000 strokes 5	rev/min	rad travel cm ³ /1000 strokes / mm 7	
(2) 1050	107,5 - 109,5 (105,5 - 111,5)		700	101,5 - 104,5 (99,5 - 106,5)	100	149,0 - 159,0	
			500	max. 102,5 (104,5)	250	6,0 mm RW	

Checking values in brackets

B. Governor Settings

PRG chec	Control rod travel	Full-load Setting por		rev/min	Idle spee Setting p rev/min 7	Control rod travel	critications 5 Control rod travel mm	Control rod travel

Torque-control travel on flyweight assembly dimension a -

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of governor of Test oil ter	lelivery on control lever mp 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for	d Control rod travel
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm 7
						•

WPP 001/4 MAN 11,1 e

Edition

PES 6 A 95 D 410 LS 2420

RQ 250/1100 AB 839 D

supersedes

companyMAN

engine: D 2556 MXUM (220PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.3 + 0.1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7.4 - 8.0	0,4			_
200	6	3,2 - 4,2				
	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	g of slider ck Control rod travel mm	Full-load s Setting po	•	-	rev/min	Idle spec Setting p rev/min 7	Control red travel	rev/min	cifications 5 Control rod travel mm	rev/min 11	Control rod travel mm
600	15,7-16,3	600	16,0	1100 1150 1200 1250	9,0-14,0 0 - 7,2		0	100 200 300 440	6,9-8,1 5,6-7,6 3,3-5,5 0		15,8-16,0 15,3-15,5
Torque-c	ontrol travel		0,2	<u> </u> 			<u> </u>	1145	- 1160	<u> </u>	1 mm less contro

Torque-control travel on flyweight assembly dimension a

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

rod rod	Full-load de governor co Test oil terr	elivery on ontrol lever ap. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting fuel delivery Idle speed		
1100 119,5 - 121,5 500 max. 120,5 250 7 mm RW 800 115,0 - 118,0		1		revimin 4	cm ³ /-1000 strokes 5	rev/min 6	rod travel cm ³ /1000 strokes / mm 7	
1100 114 5 - 110 5		119,5 - 121,5		I .	1			
		116,5 - 118,5			1 -			

Checking values in brackets

9.75

①

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 16,0 c 1

1. Edition

PE 10 A 95 D 520/5 LS2501

RQ 750 AB1015R

supersedes

company MAN

engine. D 2530 MTE

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1,70-1,80 mm (from 8)

Cy1. 10

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
730	12,7	13, 1 - 13, 3	0,3(0,6)			
200	+0,1 6,4-6,6	1,5- 2,1	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s			Intermediate	rated sp		Lower rated	speed	Control rod	Stiding s	eeve travel
deflection	rev/min Control	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		travel		\cup
	rod travel mm	rev/min (2a)		rev/min	mm 4	lever	rev/min		rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.30	11,7	747-753	~	-	-	-	-	-	750	5,7
	3,8	770-780						I		
	810	0 - 1							-	-
						3				

Torque control travel a =

Festoil-ISO 4113

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten	d stop		Fuel deliv	ery characteristics 5a	Starting Idle switching	•	Torque-control 5 travel Control rod	
rev/min	cm³/1000 strokes	rev/min _ 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9 .
730	129, 5-131, 5 (127, 5-133, 5)	745-755 dis		16,5 - 21,5 on .4 (6)				,
Set	damping stop 1	rom 4.5 to 4	бmm	CRT!				

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.78

E7

BOSCH

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Test Specifications 1 Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 16,0 c

3. Edition

PE 10 A 95 D 520/5 LS2501

RQV 250-1250 AB967R (1)

AB966R (3)

supersedes 11.76 company: MAN

ROV 250-1150 AB967R (2)

D 2530 MTE

RQV 750

10 - 9 - 4 - 1 - 3 - 7 - 6 - 3 - 5 - 2 0 -45 -72 -117-144-189-216-261-288-3330

A. Fuel injection Pump Settings

Cyl. 10

POR Closing at brea	UORU	(1,05-1,05)	mm (nom bbo)					
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)		
rev/min	mm ₂ (+0,1)	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6		
(1) 1250	10,5	10, 1 - 10,3	0,3(0,6)	725/12,6	- 12,6 - 12,9	(3)		
(2) 1150 (1-2)250	12,0 5,9-6,1	13,0 - 13,2 1,5 - 2,1	0,3(0,6) 0,3(0,5)	200/6,5	- 1,5 - 2,1	(3)		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

250-1250 (1)

Upper rated s	peed		Intermediate	rated sp	4	Lower rated	speed		Sliding sleeve travel	
	rev/min Control	Control rod (a	I denection		Control rod travel	Degree of deflection		Control rod travel		ı (I)
	rod travel mm	mm rev/min (28	of control lever	rev/min	mm ④	of control lever	rev/min	mm 3	rev/min	mm 11
1	2	3	4	5	6	17	8	9	10	11
ca.50	1275 1500		4 -	-	-	ca.13	100 250 310-3	min.7,5 5,9-6,1 370 = 2,0	500 1000	0,5-1,2 3,7-4,1 5,9-6,3
ca.43	1295 1355								1275	8,4
						3a				-

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed 2b limitation intermediate speed	Fuel delivinghidle s	rery characteristics 5a	Starting Idle switchir		Torque- travel	Control cod
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1250	99, 5-101, 5 (98, 5-102, 5)	1290-1300 *			100	15,7-16,3		
	(70, 5-102, 5)				250	15,0-21,0		
						je-over point - 170 min ⁻¹		./.

Checking values in brackets

Testoil-ISO 4113

	rev/min	Control rod (1a	Intermediate Degree of deflection		ed Control rod travel	Lower rated Degree of deflection	speed	Control rod travel	Sliding sl	eeve travel
	rodtravel	mm	of control lever	rev/mın	mm 4	of control lever	rev/min		rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.50	1180 1360 1195	14,4-18, 0 - 1 ca.11,0	0 -	-	-	ca.13		mind.7,5 5,9-6,1 370= 2,0	200 480 800 1180	0,5-1,2 3,2-4,0 5,0-5,4 8,4
	1255	ca. 4,0				(3a)			-	-

Torque control travel a =

เกต

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	stop p 40°C (104°F) 2	intermediate speed	Fuel deliv high idle s rev/min	peed 5b cm ³ 1000 strokes	Starting fuel delivery (Idle switching point mm RW / rev/min cm3/1000 strokes		Torque- travel rev/min	Control rod travel
1	2	3	4	5	6	7	8	9
1150	128, 5-130, 5 (126, 5-132, 5)	1190-1200 *	500	124, 0-127, 0 (122, 0-129, 0)		15,7-16,3		
	(120, 5-132, 5)			(122,0 127,0)	250	15,0-21,0		
				٠ (e-over point 170 (80-190)		

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

750 (3)

Upper rated s	speed		Intermediate	rated spe	ed	Lower rated	speed		Sliding sl	eeve travel
Degree of deflection	rev/min	Control rod ta	Degree of deflection	1	Control rod travel	Degree of deflection	1	Control rod travel	1	(1)
of control lever	rod travel mm	mm rev/min (2a)	of control lever	rev/min	mm 4	of control lever	rev/min	mm ③	rev/min	mm
1,	2	3	4	5	6	7	88	9	10	11
ca.29	725 800	16,0-22,							750	4,6
	750 775	ca.11,6 ca. 4,0						'	-	-
						3a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roe Test oil ten	elivery d stop np 40°C (104°F) 2	Rotational-speed (2b) Ilmitation Intermediate speed	Fuel delivingh idle s	very characteristics 5a speed 5b	Starting Idle switchir	fuel delivery 6 ng point	Torque- travei	Control rod
rev/min	cm³/1000 strokes	rev/min (4a)	rev/min	cm ⁹ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
725	125, 0-127, 0 (126, 0-129, 0)				-			
	(120)				200	15,0-21,0		

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 9,2 b

2. Edition

PES 5 A 95 D 410 LS 2381

RQ 250/1150 AB 839 D

supersedes 11.74

RQV 250-1150 AB 847 D,850D company: MAN

PES 5 A 95 D 410 LS 2396

RQ 250/1150 AB 839 D

D 2555 M/MH

(168 PS)

1-3-5-4-2 je 72°

All test specifications are valid for Bosch Fuel injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC)

Testoil-ISO 4113

Part closing at prest	troke 1	,6+0,1	mm (from BDC)	COLOII	
Rotational speed	Control rod travel	Fuel delivery	Oifference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	100 strokes	mm 2	3	6
1000	9	7.5 - 8.0	0,4			
	6	3, 2 - 4, 2				
200	6	0,5-1,4				
•						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ .. 839 D

	Setting po		· ·	cifications (4)	Setting p		Test spec	Control rod		Control rod
Control rod travel mm	rev/min	Control rod travel rnm 4	Control rod travel rmm	rev/min	rev/min 7		rev/min 9	travel		travel mm
00 15,7-16,3	600	16,0	. 1	15,0-15,4 10,0-14,4 0 - 9	540	0	250 350	6,6-8,1 4,5-6,7 1,5-4,0	1020	15,8-16,0 15,4-15,6
			1320	0			440	0	1100	15,3-15,4

Torque-control travel on flyweight assembly dimension a

Speed regulation. At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d	control lever (2)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting fuel delivery ldle speed		
rest on ter	np. 40°C (104°F) cm³/-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes	rev/min	cm ³ /1000 strokes:/ mm	
20° 1150	2381 und 2396 112, 5 - 114, 5		800 500	114,5 - 117,5 max. 115,5	100 250	119 - 129 7 mm RW	
40° 1150 (incr	109,5 - 111,5 ease by ± 1,0 cm ³)	800 500	112,0 - 115,0 max. 112,5			
						./.	

Checking values in brackets

10.75

							V				
Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Sliding sleeve travel	
Degree of deflection of control lever		Control rod travel mm rev/min	(a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel		mm
1	2	3		4	5	6	 	8	3 7 4 A		
ca. 50	1170	14,4-17	,4	l		1	ca. 13	50	7,7-11,0		0,5-1,3
	1220	9,0-14	.0	1				150	6,6- 9,8	480	3,2-4,0
	1280		-			i		250	4,2-7,2	800	5,0-5,4
	1350		,-					350	0 - 3,4	1180	8,4
1	1					ł		410	0		
	1	1		1	1			1710	U	1100	0
j					1	1	(3a)	1		500	0,3-0,5

Torque control travel a = U,4

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	stop	Rotational-speed (2b) timitation intermediate speed	Fuel deliv high idle s	rery characteristics 5a speed 5b	Starting I Idle switchin	\sim	Torque- travel	Control rod
rev/min	cm ³ 1000 strokes	rev/min 4a	rev/min	cm ⁹ 1000 strokes	rev/min	cm¾1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
20° 1150	- 2381 und 2396 112,5-114,5	1190-1205 *	800 500	114,5-117,5 max. 115,5		119 - 129 7 mm RW		
40° 1150 (incre	109,5-111,5 ase by ± 1,0	1	800 500	112,0-115,0 max. 112,5	Chan 180-	ge-over point 200 <mark>min-1</mark>		

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Stiding st	eeve travei	ı
Degree of deflection of control	rev/min Control rod travel	Control rod travel	(ta)	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel			
lever	mm	rev/min	(2a)	lever	rev/min	mm (4)	lever	rev/min	mm (3	rev/min	mm	١
1,	2	3		4	5	6	7	8	9	10	11	4
				ç							·	
							За					

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

	stop p 40°C (104°F) 2	Rotational-speed 20 imitation intermediate speed 4a	Fuel delivingh idle s	peed 50 cm ⁹ /1000 strokes	switchir		Torque- travel	Control cod travel
rev/min	cm ³ /1000 strokes 2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 8.3 t

Edition

PE 6 A 70 C 412 RS 1058

EP/RSV 325-750 A7 B537DL

supersedes

cempany: engine

MAN D 1246 M

Note: Perform basic adjustment before setting start of delivery.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at prestroke

2,25-2,35

mm (from BDC)

RW 12

	Control rod traval mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,5 - 4,8	0,3			
	6	2,0 - 2,6				
200	6	1,1 - 1,7				

Adjust the fuel delivery from each outlet according to the values in [

Testoil-ISO 4113

B. Governor Settings

Degree deflect	Septem Control (rave)		(a)	Degree of deflection drayel		Lower rated speed Degree of deflection of control		Sliding sleeve travel				
lever	101	mm 2	rev/min 3			rev/min 5	mm (4)	lever 7	rev/min 8	mm (3) 9	rev/min 10	mm 11
ca.	44	750	16,0		فرده والحائد			ca.19	325	6,0	730 400	0 0,4-0,6
		770 790	11,8 7,2		without spring	auxi	lary		100 325	19,0-21,0 5,7- 6,3		0,4 0,0
	•	780 850 920	8,2-10,3 1,6- 3,0 0,3- 1,0	4	with au spring	xilia	гу	(3a)	400 550	3,3-4,6 0-1,0	i	

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc	d stop	limitation			Starting Idle switching		Torque- travel	control 5
rev/min	np 40°C (104°F) (2) cm³/1000 strokes	rev/min 4a	rev/min	cm ² /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
750	67,0 - 69,0	760			100	min.20mm RW	325	6,0
- Re-	check on engi	ne! -						
						ĺ		

Checking values in brackets

* 1 mm less control rod travel than col. 2

1.79

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 5,1 e

1. Edition

PES 5 A 80 D 410 RS 2526

RS 325/1400 A0B 2212 L

supersedes Deutz Argentinien F 5 L 913

ennine.

Komb.-Nr. 9 400 085 255

1-3-5-4-2 je 72° ± 0,5 ° (± 0,75 °)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

1,9-2,0 (1,85-2,05)

mm (from BDC)

Rotational speed	nai Control rod Fuel delivery travel		Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm³/100 strokes	cm ³ / 100 strokes	mm	cm ⁹ /100 strokes	mm
1	2	3	4	2	3	6
1400	11,5+0,1	6,6-6,7	0,25 (0,4)			
325	8,4-8,6	1,0-1,3	0,2 (0,35)			
					·	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	r rated speed	rev/min	Intermediate rated speed			4	Lower	rated speed	3 Torque control		
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm	
loose	800	0,3-1,0	-	-	-	FH ca.28	325	8,5	1400	11,5-11,6	
		= 2,0					280 420	8,8-9,6 5,6-6,4	500 1100	12,2-12,3	
VHca.55 FH max.	10,5	1440-1450 1500-1530 0,3-1,7					550 1300	max. 4,4 max. 3,8		11,0212,1	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	uli-load stop emp 40°C (104°F)	Rotational- speed limitat	Gap Fuel delivery characteristics		Starting fidle	uei delivery 5	4a) Idle	e stop Control rod
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm+/1000 strokes 7	rev/min 8	travel mm 9
1400	65,0-66,5 (64,0-68,0)	1440-1450*	500 1100	55,5-57,5 (53,5-59,5) 62,0-64,0 (60,0-66,0)	100	19,0-21,0 mm RW	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

12.85

BOSCH

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Test Specifications Fuel Injection Jumps (1A) and Governors

WPP 001/4 HAN 10,8 g

1. Edition

En

PE 6 A 95 D 320 RS2557 Z

EP/RSV 350-1100 A8 B1117DR A8 B1118DR

supersedes (1)company engine

MF-Hanomag D 963 TC

Test cold-start device according to VDT-I-DAF 004

(1) D 962 (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 - 2,25 (2,10 - 2,30)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm [®] /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1100	11,3-11,4	10,6-10,9	0,3(0,6)	10,0-10,1	9,0 - 9,3	
350	6,4-6,5	0,9-1,5	0,3(0,5)	6,4-6,5	0,9 - 1,5	
700/500		C, 4-5	0,4(0,7)			
					·	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1117 DR (1)

	r rated speed Control rod travel mm		Intermed	trate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	110	rque control Control rod travel mm
loose	800	0,3-1,0				ca.25	350	5,5	1100	11,3-11,4
ca.56	x 1140-1 1175-1 1370						100 350 490-550 650	min.19 5,9-6,1 = 2,0 0 - 1	960 500	11,4-11,6

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	Rotational- speed limitat Fuel delivery characteristics			Starting fuel delivery 5 4a Idle stop			
Test oil to rev/min 1	emp 40°C (104°F) cm ³ /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm//1000 strokes	rev/min	cm ³ /1000 strokes 7		travel mm 9
1100	105,0-107,0 (103,0-109,0)	1140-1150*	700	108,0-111,0 (106,0-113,0)	100	**19 - 21		
			500	100,0-102,0 (98,0-104,0)				./.

Checking values in brackets

* 1 mm less control rod travel than coi 2



118DR (2)

10 1 1	Degree of deflection of control mm Control rod travel travel mm rev/min			diate rated	speed	Control- lever deflection in degrees 7 Lower rated speed Control rod travel mm 9		Control rod travel mm		rque control Control rod travel mm
loose	800	0,3-1,0				ca.25	350	5,5	1100	10,1-10,2
ca.56	1140-1 1170-1	= 5,50 150 = 9,0 200 = 4,0 0,3- 1,7					100 350 490-550 650	min.19 5,9-6,1 = 2,0 0 - 1	975 500	10,2-10,4 10,6-10,7

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1		Rotational- speed limitat. Note: changed to) rev/min 3		el delivery aracteristics cm ³ /1000 strokes 5	Starting for the starti	uel delivery 5 cm³/1000 strokes	•	e stop Control rod travel mm 9
1100	89,0-91,0 (87,0-93,0)	1140-1150*	³ 700 500	93,0-96,0 (91,0-98,0) 83,5-86,5 (81,5-88,5)	100	19 - 21		

Checking values in brackets

Testoil-ISO 411

* 1 mm less control rod travel than col. 2

B. Governor Settings

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rque control Control rod travel mm
29									

C. Settings for Fuel Injection Pump with Fitted Governor

	eli-load stop emp. 40°C (104°F)	Rotational- speed limitat. Note: changed to)		el delivery aracteristics	Starting fidle			Control rod
rev/min	cm³/1000 strokes	rev/min	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9
							ļ	

Checking values in brackets En

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 HAN 10,8 a 3. Edition

			<u> </u>	
	RS2364 RS2364 RS2364 RS2365,Z,Y RS2365	350-1100 A4 B1041DR (1) 350-1100 A4 B1069DR (2) 350-1100 A4 B1070 R (3) 350-1100 A4BV12413 (4) 350-1100 A4 B1041DR (5) 350-1100 A4 B1041DR (6) ction Pump Test Benches and Testers	supersed£s company engine	12.74 MF-Hanomag D962 (1) D963 (2) D963A1 (3) DU963A1 (4) D 943 (5)
A. ruei inje		C t t t t t		DU943 (6)

Port closing at prestroke

estoil-ISO 4113

2,15+0,1

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,5 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1041DR (1)

14	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower	rated speed Control rod travel mm 9	(3) fo rev/min 10	rque control Control rod travel mm
ca.70	1100 1140 1180	16,0 11,8 6,2 ca.9,6	spri			ca.30 ry	350 100 350 450	7,0 19 - 21 6,7-7,3 3,8-5,3	1100 600	0,5-0,7
29	1200 1250	ca.3,3 0,3-1,5	with spri	auxil ng	liary		630	0 -1,5		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop	6 Rotational- speed limitat		iel delivery iaracteristics	Starting findle	uel delivery 5	4a) Idle stop	
rest oil te rev/min 1	mp 40°C (104°F) cm ² /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ² /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	Control rod travel mm 9
(1) 1100	89,0-91,0	1110-1125	700 500	92,5-96,5 91,5-97,5 83,5-86,5 82,5-87,5				
								./

Checking values in brackets

* 1 mm less control rod travel than col 2

Uppe Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	liate rated	sp se d	Control- lever deflection in degrees 7		rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
ca.70	1100 1140 1170	16.0 12,2 8,2	*			ca.29	350 100	7,9 19 - 21	4400	0
29	1150 1230 1320	9,3-11,8 2,3- 5,0 0,3-1	**				350 500 600	7,6-8,2 2,4-5,2 0 - 1	1100 500	0,6-0,8

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop Test oil temp. 40°C (104°F)		Rotational- speed limitat.		el delivery aracteristics	Starting f	IC			
	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9	
(2)	103,5-105,5	1110-1125	700 500	109,5-112,5 103,0-106,0					
DU963 1100	86,0-88,0	1130-1140*	700 500	94,5- 97,5 84,0- 87,0					

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

1070 R (3)

	flection control mm mm rev/min				Control- lever deflection in degrees 7	Control rod travel rev/min mm rev/min mm. B 9 10 11				
ca.70	1110 1140	16,0 12,2	*	without	t auxi	ca.30	350	7,9	1100	0
	1170 1140	7,4 10,5-13,0		spring with au			100 350 500	19 - 21 7,6-8,2 2,5-5,0	350	0,2-0,8
2	1200 1320	4,5- 6,7 0,3- 1,0	1	spring	JA 11 10	, y	650	0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop emp. 40°C (104°F)	Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	(4a) Idle stop Control rod	
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9
(3) 1100	118,5-120,5	1110-1125	750 500	116,5-120,5 114,5-118,5				
								./.

Checking values in brackets

* 1 mm less control rod travel than col. 2

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	diate rated		Control- lever -deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	3 To	rque control Control rod travel mm
ca.70	1100 1140 1170	16,0 12,2 7,4	with spri	out au ng	xilia	ca.30 'y	350 100	7,9 19 - 21	1100	0
2	1140 1200 1320	10,5-13,0 4,5- 6,7 0,3- 1,0	snri	auxil ng	iary		350 500 650	7,6-8,2 2,5-5,0 0 - 1	350	0,2-0,8

C. Settings for Fuel Injection Pump with Fitted Governor

Test oil temp. 40°C (104°F)		6 Rotational- speed limital.	6 Rotational- speed limitat. Speed limitat. Speed limitat.			tuel delivery 5	(4a) Idle stop		
		Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control root travel mm	
(4) 1100	LDA 0,6 bar 109,5-111,5 108,5-112,5	1130-1140*	LDA 700	0,6 bar 117,5-121,5 116,5-122,5					

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

Testoil-ISO 4113

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
2364 + V12413	0,40		0,2 - 0,3
		0,20	1,1 - 1,3
			·

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

./.

En

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7	- Lower rev/min 8			rque coন্যাতা Control কেই travel মান	
ca.70	1100 1140 1180	16,0 11,8 6,2	*			ca.30	350 100 350	7,0 19 - 21 6,7-7,3	1100	0
②	1125 1200 1250	ca.9,6 ca.3,3 0,3-1,5	**				450 630	3,8-5,3 0 -1,5	600	0,5-0,7

C. Settings for Fuel Injection Pump with Fitted Governor

	III-load stop	Rotational- speed limitat.	39 Fu	el delivery aracterístics 1	Starting t	Starting fuel delivery 5 da Idle stop			
İ	cm ³ /1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev#min 8	travel mm 9	
1100	93,0 - 95,0	1140-1155*	700 500	99,5-103,5 91,5- 94,5					
"Z" 1100	87,5 - 89,5	1140-1155*	700	91,5- 94,5					
1100	84,0 - 86,0	1140-1155*	500 700 500	82,5- 85,5 88,5- 91,5					

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

1041DR (6) DU 943

Degree of deflection of control lever	r rated speed Control rod travel mm		Intern	nediate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm		rque control Control rod travel mm
ca.70	1100 1140 1180	16,0 11,8 6,2	*	without spring	auxi	ca.30 iary	350 100	7,0 19 - 21	1100	0
20	1125 1200 1250	ca.9,6 ca.3,3 0,3-1,5	**	with au spring	xilia	у	350 450 630	6,7-7,3 3,8-5,3 0 -1,5		

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	da Idle stop	
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
(6) 1100	76,0 - 78,0	1130-1140*	700 500	75,5-80,5	·			

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

RS 2364

40

WPP 001/4 HAN 10,8 b
3. Edition

EP(RSV 350-1100 A4 B1104DR (1) supersedes 4.78 EP/RSV 350-1100 A4 B1103DR (2) company MF-H

company engine MF-Hanomag 44C-55C-600 (1)

66C-700C (2) 44C (3)

Test cold-start device according to VDT-I-420/114
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

PE 4 A 95 D 420 RS 2365 EP/RSV 350-1100 A4 B1104DR

A. Fuel Injection Pump Settings 2,15-2,25

Port closing at prestroke

estoil-ISO

PE 6 A 95 D 320 RS 2364

(2,10-2,30)

mm (from BDC)

Rotational speed rev/min 1	travel 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ⁴ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,5 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

2364 + 1104D (1)

						Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 To	rque control Control rod travel mm
ca.70	1100 1140 1180	16,0 11,8 6,2	without auxilia spring			ca.30 ry	350 100	7,0 19 - 21	1100	0
ca .69	1155 1180 1350	ca.9,0 ca.4,0 0,3-1,7	1	auxil	liary		350 610	6,9-7,1 570=2,0 0 -1,5	600	0,5-0,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop	6 Rotational- speed limitat		nel delivery naracteristics	Starting I	uel delivery 5	I Control roo		
	cm ² /1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	um=/1000 strokes	rev/min 8	travel mm 9	
(1) 1100	89,0-91,0 (87,0-93,0)	1140-1150*	700	93,0 - 96,0 (91,0 - 98,0)					
			500	83,5 - 86,5 (81,5 - 88,5)					

Checking values in brackets

* 1 mm less control rod travel than col 2

12.78

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung i 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

(1) Uppe	r rated speed		Intermediate rated speed			Lower rated speed			Torque control	
Degree of deflection of control	Control rod travel mm	travel				Control- lever deflection	rev/min	travel mm	rev/min	travel mm
lever 1	2	3	4	5	6	in degrees 7	8	9	10	11
ca.66	1100	16,0	*			ca.29	350	6,0	4400	0
	1140 1170	12,2 8,2				_	100 350	19 - 21 6,4-6,6	1100	0
29	1145 1185 1350	ca. 12,0 ca. 4,0 0,3-1,7	**				505- 650	565=2,0 0 - 1,5	500	0,4-0,6

C. Settings for Fuel Injection Pump with Fitted Governor

Pull-load stop Test oil temp. 40°C (104°F)		Rotational- speed limitat. Note: changed to)		el delivery aracteristics	Idle	uel delivery 5	Control rod travel		
rev/min 1	cm ³ /1000 strokes 2	rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	8	mm 9	
(2) 1100	103,5-105,5 (101,5-107,5)	1140-1150*	700	99,5-103,5 (97,5-105,5)		**			
			500	103,5-105,5 (101,5-107,5)					

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

2365	+	1104DR(3)
------	---	-----------

	rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interm	ediate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
ca.70	1100 1140 1180 1145 1180 1350	16,0 11,8 -6,2 ca. 9,0 ca. 4,0 0,3-1,7	** ;	without spring with aux spring			350 100 350 510- 650	7,0 19 - 21 6,9-7,1 570=2,0 0 - 1,5	1100 600	0 0,5-0,7

C. Settings for Fuel Injection Pump with Fitted Governor

	li-load stop emp. 40°C (104°F)	Rotational- speed limitat.		el delivery aracteristics	Starting f Idle	uel delivery (5)	da Idle stop Control rod	
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9
(3) 1100	93,0-95,0 (91,0-97,0)	1140-1150*	700 500	\$00,0-103,0 (98,0-105,0) 92,0- 94,0 (90,0- 96,0)		**		

Checking values in brackets En * 1 mm less control rod travel than col. 2

estoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOB 6,0 d 2. Edition

En

PES 6 A 90 D 320 RS 2480 PES 6 A 90 D 320 RS 2481 RQV 250-1150 AB 594 R (1) RQV 250-1150 AB 594 R (2) company: Volvo-BM engine D 60 A (1) TD 60 A (2)

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroks

2,0 + 0,1

mm (from BDC)

**

Rotational speed rev/min	Control rod traval mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,1 - 5,5	0,4			2,5 + 0,1** (max.2,2-2,9)
	6	1,6 - 2,6	,			(1110.2,2-2,3)
200 ** Port 5,5-6.	9 closing 5°camsha	3,5 - 4,5 difference betw ft.	een contr	ol-rod tr	avel 9 mm and	£1 =

In the case of greater dispersion alter the delivery-valve spring pre-tension accordingly.

B. Governor Settings

Upper rated s	peed			Intermediate	rated spe	ed		Lower rated	speed			Sliding si	eeve travel
	rev/min Control rod travel mm	traver	(a) (28)	Degree of deflection of control lever	rev/min	Control rod travel	a	Degree of deflection of control lever	rev/min	Control ro travel mm	d (3)	rev/min	mm (1)
1	2	3	9	4	5	6		7	8	9		10	11
ca.68	1150 1200 1250 1330 1440	15,0-18 11,3-15 7,2-12 0 - 7	,2 ,2	-	-	-		ca.14	200 300 400 500 650 800	6,6-8 4,0-6 2,9-3 2,3-3 1,0-2	,3 ,8 ,6		

Torque controi travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

	Imitation high intermediate speed		et delivery cheracteristics (5a)		g point	Torque-control (5 travel Control re travel	
rev/min cm³/1000 strokes rev	nim/ve		_		cm³/1000 strokes	rev/min	mm 9 .
1 2 3			5	•			<u> </u>
(1) 800 51,0 - 53,0	1190-1200*			isper: 1250	min.18mmRW 9,25-11,25) ion max.2,0 11,25-16,25 ion max.3,0	**	./.

Checking values in brackets

* 1 mm less control rod travel than col. 2 9.76

B. Gove	ernor	Setting	gs				RQV.	.594 F	R (2)	/OB 6,	0 d
Upper rated some property of the control lever	rev/min Control rodtrave!	Control rod	(1a)	Intermediate Degree of deflection of control lever	rated spe	Control rad travel	Lower rated Degree of deflection of control lever	speed rev/min	Control rod travel	rev/min	eeve travel 1
ca.68		0 - :	5,2	-	5 _	-	ca.14	200 300 400 500 650 800	6,6-8,0 4,0-6,3 2,9-3,8 2,3-3,6 1,0-2,2		11

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	cinn —	Rotational-speed (2b) timitation intermediate speed	Fuel deliv high idle s	very characteristics (5a) speed (5b)	Starting to switching the switching the start of the star	fuel delivery 6	Torque- travel	Control roo
rev/min	cm \$1000 strokes	rev/min 4a	rev/min	cm ²³ 1000 strokes 5	rev/min : 6	cm3/1000 strokes 7	rev/min 8	travel mm 9
(2) 900	70,0-72,0	1190-1200*			235 disper 1250	sion max.2,0	**	

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

Upper rated	speed			Intermediate	rated spe	ed	Lower rated			Sliding st	eeve travel
Degree of deflection	rev/min	Control rod	(b)	Degree of deflection		Control rod fravel	Degree of deflection		Control rod travel		0
of control	rod travel		(2a)	of control lever	rev/min	mm (4)	of control	revimin	mm 3	rev/min	mm
	2	2		4	5	6	7	8	9	10	11
							3a)				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil terr	elivery I stop np 40°C (104°F) 2	Rotational-speed (2b) firmitation intermediate speed (4a)	Fuel deliv high idle s	peed 5b	switchir	ng point	travei	Control rod travel
rev/min	cm³/1000 strokes	rev/min 3	rev/min 4	cm ⁹ /1000 strokes 5	rev/min 6	cm /1000 strokes 7	rev/min	9
,								
						i		

Checking values in brackets

* 1 mm less control rod travel than col 2

724

2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 DAF 6,2 f 2. Edition

n

PE 6 A 85 D 320 RS 2466

RQ 250/1200 AB 662 R (1) 250/1300 (2) supersedes 6.75 Company: D A F

Testing with "B" leads

engine: DD 575 (1) DF 615 (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

44

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,2 - 4,5	0,4			_
	6	1,3 - 2,0				
	12	7,4 - 8,2				
200	9	2,4 - 3,1				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

250/1200 (1)

Checking of slider	Full-load speed re	gulation	Idle speed regula		Torque control
PRG check Control rod travel rev/min mm	Setting point Control rod travel rev/min 3 4	Test specifications (4) Control rod travel mm rev/min 5 6	Setting point Control red travel rev/min 7 8	Test specifications Control rod travel mm 10	Control rod travel mm
650 19,7-20,3 1200 Breakaway	650 20,0 (Control lever ca.49°)	1200 19,6-20,0 1250 15,0-18,8 1300 9,5-15,2 1380 0 - 9 1480 0 - 1	470 0	100 9,0-11,7 200 6,1- 9,2 300 1,2- 4,7 370 0	-

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor co Test oil tem		Control rod stop 3a	Fuel delive	ery characteristics	コレノ	Starting for	fuel delivery ed Control		
rev/min	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 strokes:// n 7	od travel	
1000	48,5 - 50,5							•	
** Po	rt closing diffe 3-4° camshaft.	rence between c	ontrol·	rod travel 9	mm	and 21	=	/•	

Checking values in brackets

8.76

BOSCH

Checking PRG che	()	Full-load s Setting po	int	Test spe	cifications (4)	idle spec	-		cifications 5	Torque o	control Control rod
	Control rod travel mm	revimin 3	control rod travel mm	Control rod travel rnm 5	rev/min 6	rev/min 7	rod travel	rev/min 9	travel mm 10		travel 1111
550	19,7-20,3	550	20,0		19,6-20,0 13,6-18,2	480	0	100 200	9,6-11,5 7,2-10,1		
1300	Breakaway	(Cont lever ca.49	-	1400 1440 1540	6,6-14,0 0 -10,2 0 - 1			300 380	2,5-5,7 0		
	ontrol traval					<u> </u>		1345	-1360		1 mm tess contro

Torque-control travel on flyweight assembly dimension a =

Speed regulation At

rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test cal ten	elivery on control lever np 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for Idle spee	uel delivery d Control rod travel
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 stroked # mmRW
1000	54,5 - 56,5					,

Checking values in brackets

B. Governor Settings

Checking of slider PRG check Control rod travel rev/min	~ I	Full-load s Setting po		rev/min	Idle spee Setting p rev/min 7	Control rad travel	Test spe	cifications 5 Control rod travel mm	Control rod travel

Torque-control travel on flyweight assembly dimension a =

Speed regulation At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load di governor c Test oil ten		Control rod stop	Fuel delive	ery characteristics 3b	Starting for Idle spee	Contro	
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm³/-1000 strokes 5	rev/min	fod tr cm ³ /1000 strokes / mm 7	3901
				٠			
							•

En Checking values in brackets

2

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 STE 8,1 b 4. Edition

PE 6 A 90 C 412 RS 2250 ..D..

RQ 250/1400 AB 672 D ROV250-1400 AB 739 D RQV250- 825/1400 AB 827 D EP/RSV 250-1100 A 7 B 560 ROV 250-1400 AB 891 D

supersedes 11.75

engine:

Steyr company: WD 614.01

(180 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

Rotational speed	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,6 - 5,1	0,4			_
200	6 12 9	1,5 - 2,3 8,5 - 9,5 2,3 - 3,1				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ .. AB 672 DL (1)

1	PRG ched	Control rod travel	Full-load Setting rev/min 3	Control red travel			Control rod travel	Test spe	cifications Control rod [travel		Control rod (3) travel mm
	550	15,7-16	3 550	16,0	1400 1440 1470 1530	0 - 8,5	0	100 200 300 430	7,8-8,1 6,2-8,1 3,3-5,7	1	15,8-15,9 14,6-14,8

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil tem	elivery on ontrol lever np. 40°C (104°F)	2	Control rod stop 3	Fuel delive	ary characteristics 3b	Starting for	d Control red travel
rev/min	cm ³ /-1000 strokes		rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm
1400 1400	75,5-77.5 + 81,0-83,0		500	900 600	80,0 - 83,0 74,5 - 77,5	100	ca. 15 mm RW
1400	75,5-77,5 +		* Test with and overf "with" -	Tow va	nes" lve tention to with	runnir	g-in cap!

Checking values in brackets

4.79

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Sliding st	eeve travel
Degree of deflection of control lever	Control rodtravel	Control rod travel mm rev/min	0	Degree of deflection of control lever		Control rod travel	Degree of deflection of control lever			rev/min	mm
ca.66	1400 1460 1540 1650	7,8-1 0 -		Pay at	tentic g and	n to spec 3 washers spring!		250 350 500 700 880	7,2-8,0 3,3-5,7 2,6-4,0 1,0-2,2	1400 350 1000 600	8,5 1,8 0 0,6-0,8
							3a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil terr	stop 🔾	Rotational-speed (2b) Ilmitation Intermediate speed	Fuel deliv high idlé s	ery characteristics 5a	Starting I Idle switchin		Torque- travel	Control roo
rev/min		rev/min 4a	rev/min	cm [®]) 1000 strokes	rev/min	cm 3/100 0 strokes 7	rev/min 8	travel mm 9
1400	77,5 - 79,5	1420	1200 900 500	79,5 - 82,5		15,6-16,2		

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

RQV 250-825/1400 AB 827D (3)

Upper rated s	peed			Intermediate	rated spe	ed		Lower rated	speed			Sliding sleeve trave	
	rev/min	Control rod	(1a)	Degree of deflection		Control rod (trave)		Degree of deflection	ı	Control re	od		0
of control	rod travel	mm rev/min	(2a)	ot control lever	rev/min	mm	4	of control lever	rev/min	mm	3	rev/min	mm
	2	3		4	5	6		7	8	9		10	11
ca.66	1400 1460 1540 1660	1,5-	13,5		700 900 1000 1380	11,8-1 2,8- 0,6- 0	3,8 4,8 1,0		100 250 500 620	6,5-8 3,4-5 1,0-2 0	,7		1,0-2,2 2,4-2,9 6,6-7,1 7,4-7,6 8,3 1660End

Torque control travel a = C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem rev/min		Rotational-speed (2b) imitation intermediate speed rev/min		rery characteristics 5a speed 5b cm ³ /1000 strokes		g point cm ³ /1000 strokes	Torque- travel	Control control root travel
1	2	3	4	5	6	7	8	9
1400	77,5 - 79,5	1425	1200 800	79,5-82,5	100	15,6-16,2		
			500	73,0-76,0		ge-over point -130 U/min		

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

VDT-WPP 001/4 STE 8,1b EP/RSV 250-1100 A 7 B 560 (4)

B. GUY		Je ttill	90				FL\ 1/24	4JU 1	00 A 7 D	7 000	' /
Upper rated	speed			Intermediate	rated spe	ed	Lower rated	speed		Slidina sl	eeve travel
Degree of deflection of control	Control rodtravel		\sim	Degree of deflection of control	1	Control rod travel	Degree of deflection of control		Control rod travel		1
lever	mm 2	rev/min 3	(2a)	lever 4		mm (4)	lever 7	rev/min 8	mm (3)	rev/min 10	mm 11
ca.73	1100			without	t auxi	l iarv	ca.25	250	6,0	1080	0
	1160 1140	4,5	1.5	spring	i .			100 250	19 - 21 5,7-6,3	300	1,2-1,8
	1180 1260	2,0-3	-	with au	1	ry		350 440	0,6-3,2 0 - 1		
	1200			J			(3a)		•		

R Governor Settings

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	stop	Rotational-speed (2b) Irmitation Intermediate speed	Fuel deliv high idlé s	rery characteristics 5a speed 5b	Starting lidle switching	$\overline{}$	Torque- travel	Control re
rev/min	cm ³ 1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes		cm3/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
ca. 10	mm RW - Carı	y out adjustm	ent o	engine			ļ	
							ĺ	

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

RQV ..891 D (5)

Upper rated s	peed			Intermediate	rated spe	ed	Lower rate	d speed		Siiding si	eeve travei
Degree of deflection of control lever	rod travel	Control rod travel mm rev/min	(1a) (2a)	Degree of deflection of control lever	rev/min	Control rod fravel	Degree of deflection of control lever	rev/min	control rod travel mm 3	rev/min	mm 1
1	2	3		4	5	6	7	18	9	10	11
ca.50	1400 1500 1600 1730	15,0-18 8,3-13 1,0-8	3,3	-	-	-	ca.13	200	8,7-11,0 6,6- 9,6 2,8- 5,8 0	1400 1400 600	8,2 0 0,6-0,8
							3a)				

0,7 _{mm}

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed (2b) limitation intermediate speed (4a)	Fuel deliv	rery characteristics 5a	Starting Idle switchir		Torque- travel	Control rod
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ⁸ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1400	79,5 - 81,5	1440-1455*	900 500	80,0-83,0 73,0-76,0	100	114,9-124,9		
						ge-over poin 130 U/min	:	
		,						

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 DAF 8,3 b 1 3. Edition

PE 6 A 95 D 410 RS 2388 (1)

RQ 225/1200 AB 766L

supersecies company:

8.76 DAF

RS2388Z (2) Testing with "B" leads

EP/RSV 250-1200 A5 B 584 DL

engine:

DU 825 (1)

DHB825 (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers A. Fuel Injection Pump Settings

Port closing at prestroke

2,0-2,1 (RW 9)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	7,4 - 7,8	0,4			
	9	3,1 - 3,8				
200	9	1,2 - 2,0				
** Port 3-4°		difference betwe	en contro	1-rod tra	vel 9 mm and 2	=

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

RQ .. AB 766

Checkin PRG che	Control rod travel	Full-load s Setting po rev/min 3		Test spec Control red travel	rev/min	fdle sper Setting (rev/min 7	Control rod travel		cifications 5 Control rod travel mm	Control rod (3) travel mm
650 1200		650 (Con- lever	h		0 -10	5	0	250	9,8-11,7 7,3- 9,9 4,2- 7,0 0	-
Torque	-control travel	<u> </u>			L	-ا		1245	-1260 =	 1 mm less control rod travel

Torque-control travel on flyweight assembly dimension a =

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	Full-load de governor co Test oil tem		Control rod stop	<u>3</u>	Fuel deliv	ery characteristics	3 b	Starting f	uel delivery d 		Contrei
	rev/min	cണ ³ /-1000 strokes 2	rev/min 3		rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 7	strokes	
(1)	LDA 1000	0,5 bar 99,0-101,0 0,7 bar			LDA 600	0 bar 77,0-80,0		100 225	min. 2	0 mm 9 mm	
(2)	1000	90,5-92,5			600	77,0-80,0					
	(inci	ease by ± 1,0 c	m !)								./.

Checking values in brackets

4.77

Geschaftsbereich KH. Kundendienst. Kfz-Ausrüstung. € 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany. Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

EP/RSV .. 584 DL

1.	r rated speed Control rod travel mm		Intermed	diate rated	1	Contro! lever deflection in degrees 7	Lowe	r rated speed Control rod travel mm	(3) To	rque control Control rod travel mm 11
ca.56	1200 1260 1330	16,0 11,7 5,6	with spri	out au ng	xiliaı	ca.22 'y	250 150 250	6,0 19 - 21 5,7-6,3	500	0,1-0,3
29	1280 1350 1450	8,7-10,8 2,3- 5,5 0,3- 1,0	with sprin	auxil ng	iary		350 470	2,1-3,8 0 - 1	300	0,8-1,0

C. Settings for Fuel Injection Pump with Fitted Governor

-		U	II-load stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	4a Idia stop	
Testoil-			mp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min [*]	cm ³ /1000 strokes	rev/min Control rod tra		rev/min 8	Control rod travel mm 9
) - 	(1)	LDA 1000		1240-1250*	LDA 600	0 bar 77,0-80,0	100	min. 20		
-ISO	(2)	1000	0,7 bar 90,5- 92,5		600	77,0-80,0	250	ca. 6		
4113										
3		Checking	values in brackets					* 1 mm less con	trol rod tra	vel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

500 rev/min decreasing pressure - in bar gauge pressure Test at n =

Pump/governor	Setting	Measurement	diminution Control rod travel-
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
2388 + 766 L	0,25		0,1 - 0,2
2388Z + 766 L)		0,14	0,8 - 0,9
2388 + 584 DL	0,25		0,1 - 0,2
2388Z + 584 DL)		0,14	0,8 - 0,9
	<u> </u>	<u> </u>	

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

En

Test Specifications
Fuel Injection Pumps (2)
and Governors

40

WPP 001/4 DAF 8,3 a 1 3. Edition

En

PE 6 A 90 D 410 RS2387

Testing with "B" leads

RQ 225/1200 AB748L

supersedes 6.76

company: van Doorne

EP/RSV 250-1200 A5 B612DL ./.

engine:

DH 825

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,3 + 0,1(RW9)

Port closing at prestroke

Testoil-ISO 4113

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3		Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,8 - 6,3	0,4			
	6 12	2,5 - 3,4 10,0 -11,1				
200	9	3,2 - 4,4				
		rence between c	pntrol-ro	d travel	9 mm and 21 =	
4.5-5.5° car	hshaft.			<u> </u>	L	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ ... 748L

	control rod ravel	Setting poi		ontrol ontrol rod travel rod travel mm rev/min 5 6			Setting point Control rev/min Test specifications Control rod travel rev/min R P Test specifications Control rod travel mm Test specifications Control rod				rev/min	Control rod (3) travel mm
650 1200	19,7-20,3 Breakaway	650 (Con leve ca.4	r		(16,8		0	150 250 400 500	9,0-11,7 7,1-10,0 1,8- 5,2 0	-	-

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At 45-1260

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor co Test oil tem	elivery on ontrol lever p. 40°C (104°F)	Control rod stop 3a	Fuel delivery characteristics		Starting for Idle spee	Control
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm 7
1000	69,5 - 71,5					
						./.

Checking values in brackets

8.76

EP/RSV .. 612 DL

	egree of shection control mm Control rod travel mm rev/min			liate rated	speed 6	Control- lever deflection in degraes 7	ever travel deflection rev/min mm			rque control Control rod travel mm
ca.56	1200 1260 1330 1280 1350 1450	16,0 11,7 5,6 8,7-10,8 2,3-5,5 0,3-1,0	spri	auxil		ca.22 'Y	250 150 250 350 470	6,0 19 -21 5,7-6,3 2,1-3,8 0 - 1	600 300	0 0,8-1,0

C. Settings for Fuel Injection Pump with Fitted Governor

U	il-load stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	I Control rod	
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
1000	69,5 - 71,5	1240-1250*						

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	control rod travel mm rev/min	Interme	odiate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rque control Control rod travel mm 11
29									

C. Settings for Fuel Injection Pump with Fitted Governor

emp. 40°C (104°F) cm ³ /1000 strokes	Rotational- speed limitat. Note: changed to) rev/min 3	Fuel delivery characteristics rev/min cm³/1000 strokes 4 5		Starting fuel delivery 5 Idle rev/min cm³/1000 strokes 6 7		Control rod travel mm 8 9	

Checking values in brackets En

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 1. Edition

PES 4 A 85 D 210 RS2576

EP/RSV 300-1150 A2B2069R

supersedes

company

engine

D. Brown 45500

1 - 2 - 4 - 3

+ 0,50

0 -90 -180-270°

(+0,75)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,70-2,80

Port closing at prestroke (2,65-2,85)

mm (from BDC)

mm (2)	cm ³ /100 strokes 3	cm³/ 100 strokes 4	travel mm 2	cm\$100 strokes 3	(torque-control valve) mm 6
9,8-9,9	6,0-6,2	0,3(0,45)			
6,9-7,1	0,9-1,5	0,2(0,4)	•		
1	9,8-9,9	9,8-9,9 6,0-6,2	9,8-9,9 6,0-6,2 0,3(0,45)	9,8-9,9 6,0-6,2 0,3(0,45)	9,8-9,9 6,0-6,2 0,3(0,45)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

14 1 3	rated speed Control rod travel mm		Intermed	liate rated	speed	Control- lever deflection in degrees 7	1	rated speed Control rod travel mm	(3)	rque control Control rod travel mm
100se	800 x	0,3-1,0 = 4,0				ca.20	300 100 300	6,5 min. 19 6,9-7,1	800 500	9,8-9,9 9,8-9,9
ca.46	1225-1	200 = 8,8 255 = 4,0 0,3-1,7						50 = 2,0 0 - 1		11,1-11,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ii-load stop amp 40°C (104°F)	Rotational- speed limitat	11.32	Fuel delivery characteristics		Starting fuel delivery 5 4a idle stop		
rev/min	cm ⁹ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9
800	61,0 - 62,0 (59,0 - 64,0)	1190-1200*			100	114,5- 124,5		

Checking values in brackets

* 1 mm less control rod travel than col 2

5.79

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Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4

1. Edition

PES 6 A 95 D 410 RS 2536

RSV 400-1100 A 2 B 2018 DL

supersedes

company engine

John Deere 6455 T

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 1,85-1,95 Port closing at prestroke (1,8-2,0) mm

Testoil-ISO 41

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	10,0-10,2	9,7-9,9	0,3(0,5)			
400	6,0-6,1	1,2-1,6	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		Intermed	liate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	rev/min	rque control Control rod travel mm
100se	800	0,3-1,7				ca.21	400	5,5	1100	0
	x =	3,4					100	19 - 21	1000	0,1
ca .43	1150 1200	9,2 5,1					400 480-540	5,9-6,0 = 2,0	650	0,6 0,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

1	Pull-load stop Test Oil temp 40°C (104°F)		Note speed irmitat	d limitat characteristics			uel delivery 5	(4a) Idle stop	
rei	v/min	cm\$/1000 strokes	changed to 3 rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7		travel mm 9
	DA 1100	0,50 bar 95,5-105,5 (94,5- 98,5)	1145-1155* (1140-1170)		0,50 bar 105,0-108,0 (104,0-109,0) 0 bar 73,5- 79,5 (71,5- 81,5)	100 400 1200	164-184 12 -16 19-29	·	·

Checking values in brackets

* 1 mm less control rod travel than col 2

10.79

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. L. 1980 by Robert Bosch GmbH. Postfach 50. Q-7000 Stuttgart 1. Printed in the Federal Republic of Germany timprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

D. Adjustment Test for Manifold Pressure Compensator

Testatn =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
2536 + 2018 DL	0,13 - 0,16	0,41 - 0,48	
	·		

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

40

WPP 001/4
2. Edition

En

PES 4 A 75 D 410 RS 2553

EP/RSV 250-1200 A1 B1114DL

supersedes

engine

company

Steyr WD 408.43

7.78

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,40-2,60)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm\$100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1200	10,3	5,6 - 5,7	0,2(0,35)		41 to 3 and 41 to 4	
250 1000/500	+ 0,1 5,9-6,1 	0,9 - 1,5 C, 4 - 5	0,2(0,3) 0,3(0,4)	1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm			diate rated	speed	Control- lever deflection in degrees		rated speed Control rod travel mm	(3)	que control Control rod travel mm
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0,3 - 1,0 4,0 250 = 9,3 285 = 4,0 0,3-1,7	4	5	0	ca.21	250 100 250 410-4 600	5,5 min.19 5,9-6,1	1200 1100 500	+ 0,1 10,3 10,6 10,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(40)	emp. 40°C (104°F)	Rotational- speed limitat		el delivery aracteristics	Starting t	uel delivery 5	4a) Idle stop		
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9	
1200	56,0-57,0 (54,5:58,5)	1240-1250*	1000	55,0-57,0 (53,5-58,5)	100	94,5- 104,5			
			500	48,5-50,5 (47,0-52,0)					

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.79

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Federale d'Allemagne par Robert Bosch GmbH.

Testoil-ISO 4113

40

WPP 001/4 DAF 6,2 c 2

En

3. Edition

PE 6 A 90 D 320 RS2384

RQ 250/1200 AB653R EP/RSV 250-1200 A5 B523R ./. supersedes company: engine:

8.76 D A F

DT 615

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

**

Port closing at prestroke

2,2+0,1 (RW 9) mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,1 - 5,5	0,4			
	6	1,6 - 2,6				
200	9	2,9 - 3.9				
** Port c 2.5-3.5°	osing di camshafi	ifference betwee	en control	rod trav	el 9 mm and 21	<u> </u>

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ .. 653R

PRG che	Control rod				rev/min		Control red travel	Test spe	cifications 5 Control rod travel mm	rev/min	Control rod (3) travel mm 12
650	19,7-20,3	650	20,0		10,6-20,0 15,0-18,8	610	0	150 250	9,0-11,7 7,1-10,0	-	- '
1250	Breakaway	(Cont lever ca.49	1	1300 1380 1480	9,5-15,2 0 - 9,0 0 - 1			350 450 510	4,0-7,2 0-3 0		

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load di governor di Test oil ter	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics	OL VI	Starting for Idle spee	d Control
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /1 000 strokes 5		rev/min 6	red travel cm ³ /1000 strokes:/ mm 7
LDA	0,5 bar		LDA	0 bar			
1000	70,0-72,0 69,0-73,0		600	50,0-52,0 49,0-53,0			
	05,0 75,0						
							./.

Checking values in brackets

4.77

BOSCH

B. Governor Settings

EP/RSV ... 523R

10 1 3	r rated speed Control rod travel mm		Intermed	liate rated		Control- lever -deflection in degrees 7	Lower	rated speed Control rod travel mm 9	I 9 /	rque control Control rod travel mm
ca.56	1200 1280 1330	16,0 10,2 5,8	with spri	out au ng	xilia	ca.22 y	250 150	6,0 19 - 21	FOO	0
29	1260 1350 1460	10,6-11,6 2,7- 5,8 0,3- 1	with spri	auxil ng	iary		250 350 450	5,7-6,3 1,6-3,7 0 - 1	500 250	0,3-0,5

C. Settings for Fuel Injection Pump with Fitted Governor

2b Full	il-load stop	6 Rotational- speed limitat.		nel delivery paracteristics	Starting f	Starting fuel delivery 5 4a Idle stop			
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control root travel mm	
LDA 1000	0,5 bar 70,0-72,0	1240-1250	LDA 600	0 bar 50,0-52,0					

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

Testoil-ISO 4113

700 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
2384 + 653R + 523R)	0,28	0,19	0,1 - 0,2 0,8 - 0,9

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

En

3

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ② and Governors

4

WPP 001/4 DAF 6,2 b 1 3. Edition

<u>En</u>

PE 6A 85D 320 RS 2385

RQ 250/1200 AB 662 R (1) 250/1300 (2) supersedes company:

engine:

6.76 van Doorne DD 575 (1)

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4			
	6	1,0 - 1,8				
200	9	2,1 - 2,9				
**. Port cl 3-4°	losing di camshaft	fference between	control	rod trav	ell 9 mm and 21	<u> </u>

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

250/1200

(1)

Checking of slider PRG check Control retravel rev/min 1 2					rev/min	1) s	ietting p	Control rod travel	Test spe	cifications (5) Control rod travel mm	rev/min	Control rod	3
1.000	-20,3 kaway	650 (Cont lever ca.49	rol	1200 1250 1300 1380 1480	19,6-20, 15,0-18, 9,5-15, 0 - 9 0 - 1	8	470	0	100	9,0-11,7		-	

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten	elivery on ontrol lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for	d Control rad travel
r ev/ min	cm ² /-1000 strokes 2	rev/min 3	rev/min 4	cm³/–1000 strokes 5	rev/min 6	cm ³ /1000 strokes mm
1000	48,5 - 50,5 47,5 - 51,5					

Checking values in brackets

DAF 6,2 b 1

	Checking of slider Full-load speed regulation PRG check 1 Setting point Test speci					Idle speed regulation Setting point Test specifications 5				Torque o	(3)
	Control rod travel	rev/min	Control rod travel mm	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm	rev/min	Control rod trawel ····································
550 1300	19.7-20,3 Breakaway	550 (Cont lever ca.49	rol	1300 1350 1400 1440 1540	19,6-20,0 13,6-18,2 6,6-14,0 0 -10,2		0	100 200 300 380	9,6-11,5 7,2-10,1 2,5- 5,7 0 - 1		_

Torque-control travel on flyweight assembly dimension a =

B. Governor Settings

mm

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor c	oll-load delivery on overnor control lever st oil temp 40°C (104 F)		Control rod stop 3a	Fuel deliv	ery characteristics	3 b	Starting for Idle spee	d Control
rev/min	cm ³ /-1000 strokes 2		rev/min 3	rev/min	cm ³ /-1000 strokes 5		rev/min 6	rod travel cm ³ /1000 strokes / m m:∵. 7
1000	54,5 - 56,5							
			· !	<u> </u>				

Checking values in brackets

Testoil-ISO 41

B. Governor Settings

Checking PRG che	g of slider	Full load	•	-	cifications	(4)	idle spec	oint		cifications 5	Torque c	(3)
	Control rod travel mm	Zi ∵ ∵rev/mi⊓ 			rev/min		rev/min	Control rod travel mm 8	rev/min	travel mm	rev/min	Control rod travel mm 12
<u>'</u>		-	1									
				1						· · · · · · · · · · · · · · · · · · ·		
				i								
		1	i	1								
						_				<u> </u>	<u> </u>	<u> </u>

Torque-control travel on flyweight assembly dimension a

mm

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor of Test oil ter	elivery on control lever np 40°C (104°F)	Control rad stop 3	Fuel delive	/AL\	Starting for Idle speed	Control 1
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ² /~1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes / mm ⁴ /

Checking values in brackets

G23

WPP 001/4 SCL 5.7 b 1. Edition

PES 6 A 85 D 410 RS2268 RS2268Z EP/RSV 250-1000 A1 B635DL

supersedes company

Schlüter **SDMT 110 W6**

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,5 + 0,1

mm (from BDC)

		Fuel delivery cm ³ /100 strokes	Difference cm ⁹ / 100 strokes	Control rod travel mm	Fuel delivery	Spring pre-tensioning (torque-control valve)
1000	9	4,2 - 4,5	0,4	2	3	6
	6	0,7 - 1.4				
200	9	1,4 - 2,3				
•						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	1 3 /	rque control Control rod travel mm
ca.52	1000 1050 1080	16,0 10,4 6,0	with spri	out au	xilia	ca.22 y	250 150 250	8,5 19 - 21 8,2-8,8	980 790	0 0,3-0,5
29	1050 1100 1250	9,0-11,5 5,0- 7,0 0,3- 1,0					450 650	1,9-5,2 0 - 1	490	0,4-0,6

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

Starting fuel delivery 5 4a idle stop				el delivery paracteristics		2b Full-load stop		
travel	rev/min	cm=/1000 strokes 7	rev/min	cm ² /1000 strokes 5	rev/min 4	Note. changed to) rev/min 3	cm ³ /1000 strokes 2	
8,5	250	min.20mmRW	100	84,5 - 87,5 78,5 - 81,5	700	1040-1050	82,5 - 84,5*	1000
				88,0 91,0	500	1040-1050	86,0 - 98,0*	22687 1000
5	25	min.20mmRW	100	78,5 - 81,5			·	22687

Checking values in brackets

* 1 mm less control rod travel than col 2

12.76 Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. £ 1980 by Robert Bosch GmbH. Postfach So. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany imprime en Republique Féderale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 KAE 8,1 c

3. Edition

supersedes

PES 6 A 90 C 410 RS 2251 RS 2251Z**

..D..

EP/RSV 250-1100 A1 B41 **B29**

company (V9555)engine

5.69, 4,72 Kaelble MD 215 sT MD 215:**

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

Testoil-ISO 4113

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery "C" cm²/100 strokes 3	Difference cm³/ 100 strokes	Control rod travel inm 2	Fuel delivery "D" cm\$100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,8 - 6,3	0,4	9	5,1 - 5,5	
	6 12	2,5 - 3,4 10,0 -11,1		6 -	1,6 - 2,6	,
*** 200	9	3,2 - 4,1		6	1,9 - 2,9	
Part clas	ing differ	ence between c	bntrol-rod	<u>ltravel 9 m</u>	m and max.1.1+	0.1/5-6° camshaf

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm					Control- lever deflection in degrees 7 Ca.27	Lower rev/min 8	rated speed Control rod travel mm	1 2 /	rque control Control rod travel mm
ca.64	1100 1150 1200	16,0 12,1 6,8		without auxilia spring with auxiliary spring			250 100	6,0 19 - 21	1080 400	0
2	1200 1250 1350	4,0-8,2 0,8-3,5 0 - 1	4				250 350 450	5,7-6,3 1,1-3,5 0 - 1	300	1,2-1,8

The numbers denote the sequence of the tests

C. Seitings for Fuel Injection Pump with Fitted Governor

2b Fu	II-load stop	6 Rotational- speed limitat		iel delivery paracteristics	Starting f	uel delivery 5	I Control rod		
rev/min	cm ⁹ /1000 strokes	Note changed to) rev/min	rev/min	cm=/1000 strokes	rev/min	cm=/1000 strokes		travel mm	
1100	97,0-99,0	1140-1150			100	ca. 20 mmF	W		
*Z 1100	78,0-80,0	1140-1150							

Checking values in brackets

* 1 mm less control rod travel than col 2

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111

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WPP 001/4 DAF 6,2 b 2

3. Edition

PE 6 A 85 D 320 RS2385

EP/RSV 250-1300 A1B514R 250-1200 A1B514R 250- 900 A7B566R supersedes company engine

(1)

8.76 DAF DF 615

DD 575

(1) (2)

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,15+0,1

mm (from BDC)

Port closing at prestroke

Rotational speed	travel		cm³/	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1000	9	4,1 - 4,5	0,4			
	6	1,0 - 1,8				
	9 sing diffe amshaft.	2,1 - 2,9 rence between	control-rod	travel 9	mm and 21 =	

Adjust the fuel delivery from each outlet according to the values in \$\infty\$

B. Governor Settings

250-1300 (1)

Degree of deflection of control lever	r rated speed Control rod travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	(3)	rque control Control rod travel mm
ca.72	1300 1340 1380	16,0 11,2 5,7		without auxiliar spring with auxiliary spring			250 100 250	6,0 19 - 21 5,7-6,3	400	0
29		7,0-10,0 2,2- 5,4 0,3- 1	8				300 440	3,8-4,8 0 - 1	290	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		el delivery aracteristics	Starting fidle	uel delivery 5	4a) Idli	e stop (Control rod
rev/min	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm:/1000 strokes	rev/min 8	travel mm 9
1000	54,5 - 56,5 (53,0 - 58,0)	1340-1350*			100	max.RW	250	6,0
								./.

Checking values in brackets

* 1 mm less control rod travel than col 2

2.77

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250-1200 (2)

B. Gov	ernor	Settings			250-1	200 (2)				
Degree of deflection of control lever	déflection of control lever 1 2 3			Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7	Lower rated speed Control rod travel rev/min mm 8 9			rque control Control rod travel mm
ca.72	1300 1340 1380	16,0 11,2 5,7	*			ca.26	250 100 250	6,0 19 - 21 5,7-6,3	400 290	0
②	1360 1400 1500	7,0-10,0 2,2- 5,4 0,3-1	**				300 440	3,8-4,8 0 - 1	290	1,27,10

C. Settings for Fuel Injection Pump with Fitted Governor

C	II-lcad stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	4a) Idi	e stop Control rod
rev/min	cm ² /1000 strokes	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
(2)	With motor DD and quantity r	575 pay atto eduction on	ntion namep	to speed late!	100	max. RW	250	6,0

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

250-900

	r rated speed Control rod travel mm					Control- lever deflection in degrees 7		rated speed Control rod travel mm	Torque control Control rod travel rev/min 10 11	
ca.57	900 930 960	16,0 11,6 6,0		ithout pring	auxil	ca.24 iary	250 100	6,0 19 - 21	600	
2	950 970 1020	5,2-9,6 2,2-6,0 0,3-1,0	** W	ith au pring	xilian	у	250 300 370	5,7-6,3 2,4-4,0 0 - 1	370	1,2-1,8

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop temp. 40°C (104°F)	Rotational- speed limitat. Note: changed to			Starting f	uel delivery 5	Idie stop Control ro		
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9	
In	accordance with	special name	plate	on pump!	100	max. RW	250	5,0	

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 DAF 6,2 d 2. Edition

En

PE 6 A 80 D 320 RS 2408

EP/RSV 250-900 A7B566R 250-900A5B566R 250-1250A2B566R supersedes company

engine

2.74 D A F DA 475

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

**

Port closing at prestroke

Testcil-ISO 411

2,15+0,1 (RW9)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm3/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ⁹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,6 - 5,0	0,3			
	6	2,0 - 2,8				
200	6	0,1 - 0,7				
** Po	rt closing -3,5° _{camsh}	differance be	tween contr	ol-rod tra	vel 9 mm and 2] =

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

250-900 A7B566R

	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm		rque control Control rod travel mm 11
ca.57	900 930 960	16,0 11,6 6,0	withou's auxiliar			ca.24 y	250 100 250	6,0 19 - 21 5,7-6,3	880 370	0
29	950 970 1020	5,2-9,6 2,2-6,0 0,3-1		with auxiliary spring			300 370	2,4-4,0	290	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

١	Test oil temp 40°C (104°F) rev/min cm³/1000 strokes 1 2		Rotational- speed limitat Note changed to) rev/min		el delivery aracteristics cm ³ /1000 strokes 5	Starting for Idle rev/min 6	cm /1000 strokes	••••	Stop Control rod travel mm 9
	900	47,5-49,5 (46,5-50,5)	930-940*	c	·	100	max.RW	250	6
									./.

Checking values in brackets

* 1 mm less control rod travel than col 2

2.77

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B. Governor Settings

250-900 A5B566R

	deflection of control lever 1 2 3			Intermediate rated speed 4 5 6				rated speed Control rod travel mm	3 To	rque control Control rod travel mm 11
ca.42	900 960 1020	16,0 11,0 5,0	*			ca.19	250 150 250	6,0 19 - 21 5,7-6,3	880	0
29	1000 1050 1120	5,0-8,6 1,1-4,0 0,3-1,0	**				400 540	1,5-3,7 0 - 1	400	1,2-1,8

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	II-load stop	6 Rotational- speed limitat	speed limitat Characteristics			fuel delivery 5	48 Idle stop		
Test oil to rev/min 1	emp. 40°C (104°F) cm³/1000 strokes	Note: changed to) :ev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9	
850	45,5-47,5 (44,5-48,5)	930-940*			100	max. RW	250	6,0	

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

250-1250 A2B566R

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	(3)	que control Control rod (ravel mm
ca.52	1250 1320 1400	16,0 11,4 5,0		ithout pring	auxil	ca.21 iary	250 150	6,0 19 - 21	1230	0
29	1370 1420 1520	5,8-9,0 1,8-5,2 0,3-1,0	** W	ith au: pring	xiliar	у	250 400 560	5,7-6,3 1,7-4,0 0 - 1	400	1,2-1,8

C. Settings for Fuel Injection Pump with Fitted Governor

Tost oil to	III-load stop cmp. 40°C (104°F) cm ³ /1000 strokes	Rotational- speed limitat. Note: changed to) rev/min	el delivery aracteristics cm ³ /1000 strokes 5	Starting for Idle rev/min 6	uel delivery 5 cm³/1000 strokes 7	•	Control rod travel mm
1000	46,0 - 48,0 (45,0 - 49,0)	1280-1290*		100	max. RW	250	6,0

Checking values in brackets

* 1 mm less control rod travel then col. 2

WPP 001/4 HOR 1,3 b

3. Edition

8.77 supersedes (1)EP/RSV 400-1150 A1B1042L PES 2 A 65 D 410/3 RS 1273 Holder (2) company EP/RSV 400-1150 A1B1042L PES 3 A 65 D 410/3 RS 1274 VD 2 (1,3 - 1) VD 3 (2,0 - 2) engine

A. Fuel Injection Pump Settings

1,90-2,00 Port closing at prestroke (1,85-2,05)

mm (from EDC)

6.0 mm RW

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ⁹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,1	4,2 - 4,3	0,2 (0,3)			
400	+0,1 7,7-7,9	0,9 - 1,5	0,2 (0,3)			

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

Testoil-ISO 4113

1042L(1-2)

Degree of	rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	(9)	que control Control rod travel mm
loose	800	0,3-1,0				ca.22	400 100	7,2-7,4 min.19	400 with	contact
ca.56	10,1 4,0 1450	1190-1200 1220-1250 0,3-1,7					400 560-620 700	7,7-7,9 = 2,0 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

4	ill-load stop	Rotational- speed limitat	3. m 31.	el delivery paracteristics	Starting f	uel delivery 5	4a) Idl	stop
rev/min	cm [#] /1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm 9
PE2.		(1 - 2) 1190-1200*			100	54,5-69,5 (min.54,5)		

Checking values in brackets

* 1 mm less control rod travel than col 2

12.77

WPP 001/4 HOR 1,3 a 4. Edition

PES 2 A 65 D 410/3 RS 1273

PES 3 A 65 D 410/3 RS 1274

EP/RSV 250-1150 A 1 B 1042 EP/RSV 250-1150 A 1 B 1042 supersed∈s company

engine

11.74 Holder | VD 2 (1,3) VD 3 (2,0)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9 + 0,1

mm (from BDC)

RW 6

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ⁹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1000	6	1,7 - 2,0	0,3			
	9	3,2 - 4,0]			
200	6	0,4 - 1,1				

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

estoil-ISC

EP/RSV 250-1150 A 1 B 1042

14 1 /	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	rev/min	que control Control rod travel nm
ca.64	1150 1200 1240	16,0 10,8 5,6	with spri	out au	ıxilia	ca.25 ry	250 100 250	6,0 19 - 21 5,7-6,3	1130	0
29	1220 1250 1350	6,0-10,0 2,6- 6,4 0,3- 1,0	with spri	auxil ing	liary		300 450	3,9-5,0 0 - 1	300	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)	Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	4	e stop Control rod
rev/min	cm\$/1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ² /1000 strokes 7	rev/min	travel mm 9
PE 2 1150	+ PE 3: 41,5 - 43,5	1170			100	54,5-69,5		

Checking values in brackets

* 1 mm less control rod travel than col 2

WPP 001/4 HOR 1,0 a

3. Edition

En 12.71 EP/RSV600-2300A9B236D,237D PES2A55C410/3 RS1173,1222 supersedes Holder ..B236D,237D PES3A55C410/3 RS1174,1233,1226 company HD 2 ..B1016D PES2A55C410/3 RS1222 engine HD 3 PES3A55C410/3 RS1223 ..B1017D

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1

mm (from BDC)

RW 9

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	2,5 - 3,1	0,3	12	2,9 - 3,3	
	9	0,7 - 1,5]	9	1,2 - 2,0	
200	9	0,6 - 1,3		9	0,9 - 1,7	
						3

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 411

..236D

1	r rated speed Control rod travel mm		Intermed	Intermediate rated speed 4 5 6				rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
ca.67	2300 2400 2600	16,0 13,0 5,7	witho sprin	out aux	xiliar	ca.26 y	600 200 600	6,0 19,0-21,0 5,7- 6,3		0 0,6-0,8 0,7-0,9
29	2520 2660 3000	7,4-10,3 3,0-5,5 0,3-1,0		with auxiliary spring			800 1400	4,0- 5,0 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ili-load stop	6 Rotational- speed limitat	Rotational Speed limitat			Starting fuel delivery 5 4a idle stop idle			
Test oil to rev/min 1	emp 40°C (104°F) cm ² /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9	
PE 2 2280	PE 3: 18,2 - 19,2	2320	1800	20,2 - 22,2					
								./.	

Checking values in brackets

* 1 mm less control rod travel than coi. 2

12.75

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B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm		rque control Control rod travel mm
ca.70	2400 2540 2680	16,0 11,8 6,7	*			ca.26	600 250 600	6,0 19 - 21 5,7-6,3	2400 800	0
29	2640 2800 3100	6,4-9,6 1,8-4,4 0,3-1,0	**				900 1300	2,8-4,4 0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

٣	Hoad stop	6 Rotational- speed limital.		el delivery eracteristics	Starting fuel delivery 5 4a idle stop			s stop Control rod
	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
PE2 2200	+ PE3: 18,2 - 19,2	2320	1800	20,2 - 22,2				

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

1016D +	1017D
---------	-------

	r rated speed Control rod travel mm		Interme	ediate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	11.01	rque control Control rod travel mm
ca.67	2300 2450 2600	16,0 11,5 5,6	*	withou spring		ca.26 liary	600 250	6,0 19 - 21	1016D 2300 800	0
2	2450 2600 2950	10,5-12,0 3,8- 7,5 0,3-1,0		with a spring		ry	600 1000 1400	5,7-6,3 1,8-3,8 0 - 1	1017D 2300 800	

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop	Rotational- speed limitat.	3 Fu ch	el delivery aracteristics	Starting fuel delive / 5 4a Idle stop			
	1	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
PE2A								
2300	l -	2340-2350	1700	18,2 - 20,2				
PE3A 2300	T	2340-2350	1700	18,7 - 20,7				

Checking values in brackets

* 1 mm less control rod travel than col. 2

VDT-WPP 001/4 1. Edition

PES 4 A 85 C 410 RS 2341

EP/RSV 250-1100 A7 B560

supersed∈s

company

Steyr

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

mm (from BDC)

Rotational	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm³/ 100 strokes 4	mm 2	cm [®] /100 strokes 3	mm 6
1000	9	6,5 - 7,0	0,4	9	5,6 - 6,0	
	6	2,3 - 3,1		6	2,3 - 3,1	
200	6	1,3 - 2,2		6	0,1 - 0,7	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

	rated speed Control rod travel mm		Intermed	nate rated	.	Control- lever deflection in degrees 7		rated speed Control rod travel mm	1 0 1	que control Control rod travel mm
ca.73	1100 1130 1160	16,0 11,2 4,5	witho spri	out au	xilian	ca.25 y	250 100 250	6,0 19 - 21 5,7-6,3	1080	0
20	1140 1180 1260	7,5-10,5 2,0-3,6 0-1	with spri	auxil ng	iary		350 440	0,6-3,2	300	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F) cm#/1000 strokes	Rotational- speed limitat Note changed to) rev/min 3	el delivery aracteristics cm ³ /1000 strokes 5	Starting for idle rev/min 6	cm-/1000 strokes	Stop Control rod travel mm 9
750	52,5 - 54,5	1110-1120				

Checking values in brackets

* 1 mm less control rod travel than col 2

3.76

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WPP 001/4 2. Edition

Er

PES 4 A 85 C 320/3 RS2338

EP/RSV 350-1250 A1 B279R

supersedes 5.72
Motori VM

PES 6 A 85 C 320/3 RS2339

EP/RSV 350-1250 A1 B279R

engine W 1045U, 954SU W 106SU, 956SU

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

3,0 + 0,1

mm (from BDC)

-RW 9 -

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	4,9 - 5,5	0,4			
	6 15	1,3 - 2,1 12,3 -13,1	·			
200	6	0,1 - 0,9				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Control-lever deflection in degrees 7				rated speed Control rod travel mm		que control Control rod travel mm	
ca.70	1250 1300 1350	16,0 11,0 4,2	with spri	out au	xiliaı	ca.27	350 200 350	6,0 19 - 21 5,7-6,3	1230 500	0 0
20	1320 1360 1450	6,2-9,6 2,1-5,0 0,3-1,0	with spri	auxil ng	iary		420 500	1,5-2,6 0 - 1	380	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop emp 40°C (104°F)	Note changed to)		el delivery aracteristics	Starting fuel delivery idle		Control roo	
rev/min	cm³/1000 strokes	rev/min 3	rev/min 4	cm ³ /1000 strokes 5	6	7	8	9
1230	53,0 - 55,0	1270			100	103,5- 119,5		

Checking values in brackets

* 1 mm less control rod travel than col 2

11.76

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. < 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany. Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

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WPP 001/4
1. Edition

En

PES 4 A 90 D 410 RS2442, Z

EP/RSV 325-1000 A4 B1078D

sucersedes

company engine

0 M B CO 3 ..

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Spring pre-tensioning (torque-control valve)	Fuel delivery	Control rod travel	Difference	Fuel delivery	Control rod travel	
mm 6	cm ³ /100 strokes 3	mm 2	cm²/ 100 strokes 4	cm³/100 strakes 3		rev/min
			0,4	5,1 - 5,5	9	1000
				1,6 - 2,6	6	'
	,			1,9 - 2,9	9	200
			0,4	1,6 - 2,6	6	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 411

	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 6	rated speed Control rod travel mm		que control Control rod travel mm
ca.53	1010 1040 1060	16,0 10,0 4,2	with spri		xilia	ca.21	325 100 325	6,5 19 - 21 6,2-6,8	980 300	0 0,2-0,8
2	1010 1060 1080	ca. 9,8 ca. 4,2 0,3-1,0	with spri	auxil ng	iary		450 600	1,5-3,8 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop	6 Rotational- speed limitat	el deliv ery aracteristics	Starting fuel delivery 5 da idle stop				
1	cm ³ /1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/i000 strokes 7		travel mm 9
1000	84,0 - 86,0	1040-1050*	600	75,5 - 78,5				
"Z" 1000	86,0 - 88,0	1040-1050*	600	78,0 - 81,0				

Checking values in brackets

* 1 mm less control rod travel than col 2

7.79

BOSCH

Geschaftsbereich KH Kundendienst Kfz-Ausrustung € 1980 by Robert Bosch GmbH. Postfach 50. 0-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en Republique Fédérale d'Allemagne par Robert Bosch GmbH

WPP 001/4 1. Edition

PE 4 A 90 C 421 LS 2157

EP/RSV 200-1000 A1B423R

supersedes

** Performance and quantity data in accordance with

Motori VM company

documentation from R B I T.

413

A = 108 PS

= 114 PS

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

F = 125 PS

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (forque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9,	6,1 - 6,8	0,4	4 6	. 1 , 5 , 15 , 10	
	6 15	2,3 - 3,1 13,6 -14,3				
200	9	3,2 - 4,1				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Setting

11 1 /	r rated speed Control rod travel mm		Intermed	tiate rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	1 3 1	rque control Control rod travel mm
ca.55	1000 1050 1090	16 11,4 5,8	with spri	out au ng	xiliaı	са.24 У	100	6	980	0
29	1050 1100 1200	10,0-12,4 3,0-6,4 0,3-1	with spri	auxil ng	iary.		200 300 400	5,7-6,3 1,7-3,8 0 - 1	400 250	0 1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	Full-load stop Test on temp 40°C (104°F)		Rotational-speed limitat Note		Starting f	uel delivery 5	(da) Idle stop Control roo		
	rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9
"A"	980	99,0 - 101,0	1010-1030					200	6,0
"B"	980	105,0 - 107,0	1010-1030	i i					
"F"	980	118,0 - 120,0	1010-1030					ů.	

Checking values in brackets

* 1 mm less control rod travel than col 2

11.77

VDT-WPP 001/4 1. Edition

PES 3 A 80 D 320 LS 1297

EP/RSV 250-1100 A1 B11

supersedes -

Lamborghini company

engine

503 DT

603 DT

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers A. Fuel Injection Pump Settings

R 1003/1 R 1003/2

Port closing at prestroke

1 - 3 - 2 je 120°

2,15 + 0,1

mm (from BDC)

mm 2	cm ³ /100 strokes 3	cm 3 / 100 strokes 4	mm 2	cm ⁴ /100 strokes 3	mm 6
9	5,2 - 5,6	0,4			
6	2,1 - 2,9				
6	0,4 - 1,1				
	9	9 5,2 - 5,6 6 2,1 - 2,9	9 5,2 - 5,6 0,4 6 2,1 - 2,9	9 5,2 - 5,6 0,4 6 2,1 - 2,9	9 5,2 - 5,6 0,4 6 2,1 - 2,9

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	11 ~ 1	rque control Control rod travel mm
ca.60	1100 1160 1190	16,0 9,6 5,5	with spri	out au	ıxilia	ca.25 ry	250 100 250	6 19 - 21 5,7-6,3	1080	0
29	1150 1200 1300	9,6-12,4 3,8-6,7 0,3-1,0	with spri	auxil ng	iary		300 450	4,0-5,0 0 - 1	300	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop emp 40°C (104°F)	Rotational- speed limitat Note changed to)		el delivery aracteristics	Starting f	uel delivery 5	da idle stop Control rod travel		
rev/min	cm³/1000 strokes	rev/min	rev/min	cm://1000 strokes	rev/min	cmi/1000 strokes	rev/min 8	mm 9	
1	2	3		3	6		-	ļ*	
1100	53,5-55,5	1130-1140*			100	64,9-80,9			
		,							

Checking values in brackets

* 1 mm less control rod travel than col 2

10.75

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WPP 001/4 1. Edition

PES 2 A 85 C 310/3 RS 1217 PES 3 A 85 C 410/3 RS 1219 EP/RSV 250-750 A7 B164L EP/RSV 250-750 A7 B164L supersedes company

Same Cassani 1152 SA

engine

1153 SA

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

RW 21

Port closing at prestroke

3,7 + 0,05

Rotational speed	Control rod travel	Fuel delivery	Difference cm ^{\$/} 100 strokes	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1000	9	5,8 - 6,3	0,2			
	6	2,3 - 3,5				
200	9	3,3 - 4,3				
	** Port 6 5-6,5	closing differ camshaft.	nce betwee	n control-	rod travel 21 mm	and 10,8=

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm 2		Intermediate rated speed 4 5 6			Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm		rque control Control rod travel mm 11
ca.47	750 780 810	16,0 11,6 5,4	with spri	out au ng	xilia:	ca.22 y	250 100 250	6,0 19 - 21 5,7-6,3	730	0
23	800 850 920	5,0-9,0 1,4-3,0 0,3-1,0	with sprin	auxil ng	iary		350 420	0,5-3,0 0 - 1	300	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F)	Rotational- speed limitat		Fuel delivery characteristics		tuel delivery 5	4a Idi	Control rod	
rev/miñ 1	cm ⁹ /1000 strakes 2	changed to previous	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9	
730	80,5 - 82,5 (10,8 mmRW)	760			100	129,5- 159,5			

Checking values in brackets

* 1 mm less control rod travel than col 2

4.76



Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Studtgart 1. Printed in the Federal Regulation of Germany Imprime en Republique Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4

1. Edition

Εn

PES 4 A 80 D 320/3 RS 1312

EP/RSV 300-1100 A1B11R

supersedes.

company

Hürl imann

D 115 T

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15+0,1 (RW 9)

mm (from BDC)

Rotational speed				Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm³/100 strokes	100 strokes	mm	cm ⁹ /100 strokes	mm
1	2	3	4	2	3	6
1000	9	4,6 - 5,0	0,4			
	6	2,0 - 2,8				
200	6	0,1 - 0,7				
** Por	t closing	difference bet	ween contro	1-rod trav	1 9 mm and 21	=
· 8,5-	9,5 camsha	ft.				<u> </u>

Adjust the fuel delivery from each outlet according to the values in ${f I}$

B. Governor Settings

(1) Uppe	r rated speed	rev/min	Interme	Intermediate rated speed			Lowe	r rated speed	(3) To	rque control
Degree of deflection of control lever 1	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
ca.60	1100 1140 1180	16,0 12,0 7,0		without auxilia spring			100	6,0		0 1,2-1,8
@	1240	9,9-11,7 0,4- 3,0 0,3- 1,0					200 300 480	11,0-13,4 5,7- 6,3 0 - 1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting f	del delivery 5	(de)	idle stop	
Test oil to rev/min 1	cm ⁹ /1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm:/1090 strokes. 7	revimin 8	travel mm 9	
1080	62,5-64,5	1140-1150*							

Checking values in brackets

* 1 mm less control rod travel than col 2

3.77

Geschaftsbereich KH: Kundendienst Kfz-Ausrustung & 1980 by Robert Bosch GmbH. Postfach 50, 0-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH

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VDT-WPP 001/4

3. Edition

En

PES 4 A 85 C 320/3 RS 2121 PES 4 A 85 D 320 RS 2423 EP/RSV 300-1000 A 1 B 41 (1) EP/RSV 300-1050 A 1 B 41 (2) supersedes 11.64, 10.74 company Hürlimann

D 300 (1)
D 310 (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

**

Port closing at prestroke

1.5 + 0.1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	5,5 - 5,9	0,4	9	5,6 - 6,0	
	6 12	1,6 - 2,6 9,4 -10,4		6 -	2,3 - 3,1	
200		0,4 - 1,3 ing difference mshaft.	between d	6 control-rod	0,1 - 0,7 travel 9 mm ar	d 21 =

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection	effection mm mm rev/min		Intermediate rated speed			Control- lever deflection	Lower rated speed Control rod travel mm		((3)	rque control Control rod travel mm
lever 1	2	3	4	5	6	in degrees 7	8	9	10	11
ca.56	1050	16,0			• • • • • • • • • • • • • • • • • • • •	ca.25	300	6,0	1030	0
	1100 1150	10,2 3,0		without auxiliar spring with auxiliary spring		У	100	19 - 21	1030	U
23	1150	8,4-12,0 2,4- 5,8 0,3- 1,0	9				300 350 450	5,7-6,3 3,6-4,5 0 - 1	340	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat Note changed to			Starting f	uel delivery 5	Idle stop Control root travel	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	i _	mm
1	2	3	4	5	6	7	8	9
(1)	ca.10 mmRW	1020 bzw.						
(2) 1050	83,5-85,5	1090-1100			100	6,1-7,1		
	83,5-85,5	1090-1100			100	6,1-7,1		

Checking values in brackets

* 1 mm less control rod travel than col 2

6.75

BOSCH

Geschaftsbereich Kin Kundengienst Klz-Ausrustung c. 1980 by Robert Bosch GmbH, Postfach SQ. 2-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Federale d Allemagne par Robert Bosch GmbH

VDT-WPP 001/4
2. Edition

En

PES 6 A 95 D 420 LS 3024

EP/RSV 375-1100 A 2 B 754 DR 375-1100 A 2 B 763 DR ./.

supersedes

engine

Case A 504 BDT-204PS

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

 $2,0 \div 0,1$

min (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm³/100 strokes	Difference cm³/ 100 strokes	Control rod travel	Fuel delivery cm ⁴ /100 strokes	Spring pre-tensioning (forque-control valve) mm
1000	9	8,5 - 9,0	0,5			
	6 15	4,0 - 5,0 16,5 -17,8				
200	6	1,4 - 2,6				

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

EP/RSV .. 754 DR

Degree of deflection of control lever	crated speed Control rod travel mm	t rev/min Control rod travel mm rev/min 3	Interm	nediate rat	ed speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm 9	3 To	rque control Control rod travel mm
ca.43	1120 1150 1200	11,8 8,2 1,8	wit spr	without auxiliar spring with auxiliary spring		ca.20	375 150 375	5,9 19 - 21 5,6-6,2	1100 400	0,6-0,9
28	1140 1180 1260	11,0-12,0 5,2- 7,0 0,3- 1,0	WIC				450 530	1,6-3,6 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Ful	II-load stop	6 Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	49	e stop (Control rod
Test oil temp 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note changed to) rev/min 3	rev/min	cm ² /1000 strokes 5	rev/min	ev/min cm²/1000 strokes		travel mm
1100	130,5-132,5	1140-1155*		137,5-141,5 max. 140,5	100	13,7-14,3	375	18-22
(incr	ease by ± 1,0 cr	1 ₃ i)	1200	21,5- 27,5				
(incr	ease by ± 1,0 cr	1 ₃ i)	1200	21,5- 27,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

5.75

B. Governor Settings

EP/RSV...763 DR

	r rated speed Control rod travel mm		Interm	ediate rat	ed speed	Control- lever deflection in degrees 7	Low rev/min 8	er rated speed Control rod travel mm	(3) To rev/min	rque control Control rod travel mm 11
ca.43	1115 1160 1220	10,8 7,3 1,2		without auxiliar spring			375 150	6,0 19 - 21	1100	0
29	1140 1200 1280	ca.10,8 4,7-6,0 0,3-1,0		with auxiliary spring			375 450 560	5,7-6,3 2,7-4,1 0 - 1	500	0,1-0,4

C. Settings for Fuel injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	6 Rotational- speed limitat	Fuel delivery characteristics		Starting f	uel delivery 5	Idle stop	
rev/min 1	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
1100	158,5-160,5	1140-1150*	700 600	161,5-165,5 max. 164,5	100	13,7-14,3	375	18-22
			1225	11,5-17,5				
								``

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Testatn =

Testoil-ISO 4113

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

En

VDT-WPP 001/4 1. Edition

En

PES 6 A 85 D 420 RS 2264

EP/RSV 375-875 A 7 B 696 R

supersedes company

engine

Case

A 504 BD

RS 2460

Test with case overflow valve!

Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ² / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ⁴ 100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4			
200	6 12 6	1,1 - 1,9 7,2 - 8,0 0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	rated speed Control rod travel mm		Intermed 4	trate rated	speed	Control- tever deflection in degrees 7	Lower	rated speed Control rod travel mm 9	(3)	que control Control rod travel mm
ca.58	885 930 960	13,6 6,8 1,8	without auxilian			ca.30 y	375 100 375	8,0 19 - 21 7,7-8,3	875 350	0 0,2-0,8
28	930 960 1030	6,3-8,0 2,5-5,3 0,3-1,0	with spri	auxil ng	iary		450 550	2,0-4,7		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ili-load stop	Rotational- speed limital	speed limital Characteristics			Starting fuel delivery 5 4a id		
Test oil temp 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note changed to 1 rev/min 3	rev/min	cm=/1000 strokes	rev/min	cm/1000 strokes 7		Control rod travel mm
875	97,5 - 99,5	880-895	900 940	69,5 - 92,5 11,5 - 19,5	100	12,7-13,5	375	15,5 23,5

Checking values in brackets

* 1 mm less control (od travel than col. 2

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VDT-WPP 001/4 3. Edition

PES 6 A 85 C 420 LS 2264

EP/RSV 375-1050 A 2 B 521 DR

29.10.70,29.4.71 supersedes

Case company A 451 BD engine

.. D ... LS 2460 Test with case overflow valve!

Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ⁹ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ⁹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4			
	6	1,1 - 1,9				
	12	7,2 - 8,0				
200	6	0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

		rev/min Control rod travel mm rev/min	Intermed	iate rated		Control- lever deflection in degrees 7		rated speed Control rod travel mm	1 3/	que control Control fod travel mm
ca .40	1070 1110 1170 1090 1150 1260	11,8 7,6 2,0 11,3-11,9 4,7-5,8 0,3-1	sprin	g auxil	xiliar iary	ca.20 y	375 150 375 450 600	7,5 19 - 21 7,2-7,8 3,6-5,4 0 - 1		0 0,5 - 0,7 0,6 - 0,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp 40°C (104°F)	Rotational- speed limitat	39 Fu	el delivery aractenstics	Starting fuel delivery 5			Idle stop Control rod		
rev/min	am\$/1000 strokes	changed to) rev/min 3	fev/min	cm41000 strokes 5	rev/min 6	cm ² /1000 strokes 7	sev/min	mm 9		
1050	76,0 - 78,0	1090-1105*	650 550 1150	81,5 - 85,5 max. 84,5 8,5 - 16,5	100	12,5-13,5	375	15,5- 19,5		

Checking values in brackets

* 1 mm less control rod travel than col 2

8.74

40

VDT-WPP 001/4

3. Edition

En

PES 6 A 85 C 420 LS 2264

EP/RSV 375-1100 A 2 B 605 DR

supersedes 17.2.71, 28.4.71

company Case engine A 401 BD

Test with case overflow valve!
Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 41

2.15 + 0.1

mm (from BDC)

Rotational	00	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm²/100 strokes ===3	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	4,1 - 4,5	0,4			
	6 12	1,1 - 1,9 7,2 - 8,0				
200	6	0,9 - 1,7				

Adjust the fuel delivery from each object according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		Interme	diate rate	d speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm 9	rev/min	rque control Control rod travel mm 11
ca.46	1120 1160 1220	10,4 7,2 2,7	with spri		uxilia	ca.24 ry	375 150 375	6,5 19 - 21 6,2-6,8	900	0,6-0,8
28	1140 1200 1300	10,0-10,6 4,4- 5,4 0,3- 1		auxi ng	liary		450 600	3,1-4,7 0 - 1	450	1,4-1,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	Rotational- speed limitat		uel delivery naracteristics	Starting f	uel delivery 5	4a idie stop		
Test oil to	emp. 40°C (104°F) cm³/1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /10u0 strokes 5	rev/min	cm=/1000 strokes 7	rev/min 8	travel mm 9	
1100	60,5 - 62,5	1140-1155*	600 500	71,5 ² 75,5 max. 74,0	100	12,7-13,3	375	11,5- 17,5	
			1200	6,5-14,5					

Checking values in brackets

* 1 mm less control rod travel than col 2

8.74

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung < 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Federale d'Allemagne par Robert Bosch GmbH.

VDT-WPP 001/4

3. Edition

En

PE 12 A 85 C 610 RS 2141

EP/RSV 200-1100 A 1 B 207,253 D RQV 250/620- 775 AB 642 L 250/875-1075

supersed€\$9.64, 6.67 company Torpedo-Jugoslawien engine T 509

1-9-4-11-2-7-6-10-3-8-5-12-1 0-15-60-75-120-135-180-195-240-255-300-315-360°
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

mm (from BDC)

Rotational	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes	cm³/ 100 strokes 4	mm 2	cm\$100 strokes 3	mm 6
1000	9	6,5 - 7,0	0,4			
	6 15	2,3 - 3,1 14,0 - 14,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

estoil-ISO 411

..B 207

Upper rated speed rev/min Degree of deflection of control lever Control rod travel mm rev/min			Interme				Lowe rev/min	r rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
lever 1	2	3	4	5	6	in degrees 7	8	9	10	11
ca.60°	1100	16,0	1			ca.24	200	6,0	1080	U
	1150 1180	11,0 6,4	with spri	out au ng	X 1 1 1 1 1 1 1	ny 	100 200	19 - 21 5,7-6,3	400 250	0 1,2-1,8
29	1170 1200 1300	6,0-9,5 2,8-6,0 0,3-1,0	with spri	auxil ng	iary		300 450	2,2-4,1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(9)	II-load stop	6 Rotational- speed limitat		el delivery paracteristics	Starting for	uel delivery 5	4a Idle stop		
	cm ⁸ /1000 stiUkes	Note changed to) rev/min 3	rev/min	cmi/1000 strokes	rev/min	cmi/1090 strokes 7		travel mm 9	
	mm RW	1120				j			
Garry	out adjustment	on engine						./.	

Checking values in brackets

* 1 mm less control rod travel than col 2

11.75

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.

6 1980 by Robert Bosch GmbH. Postfach 50. 0-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

B. Governor Settings

	r rated speed Control rod travel mm		Interme	diate rat	ed speed	Control- lever deflection in degrees 7	- Lowe rev/min 8	r rated speed Control rod travel mm 9	3 To	rque control Control rod travel mm
ca.61	1100	16,0				ca.25	200	6,0	1080	0
	1150 1190	11,6 6,6	with spr		auxilia	iry	100 200	19 - 21 5,7-6,3	800	0,3-0,5
23	1180 1220 1340	5,2-9,5 2,8-4,9 0,3-1,0		with auxiliary spring			350 540	2,6-4,3 0 - 1	500	0,6-0,8

C. Settings for Fuel Injection Pump with Fitted Governor

とり	il-load stop	Speed in little.		el delivery paracteristics	Starting f	uel delivery 5	48 Idle stop		
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1		Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9	
1000	86,0 - 88,0	1020	700 500	83,0 - 87,0 81,5 - 84,5					

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever 1	r rated speed Control rod travel mm 2	rev/min Control rod travel mm rev/min 3	Interme	ed:ate rated	d speed	Control- lever deflection in degrees 7	rev/min 8	rated speed Control rod travel mm	rque control Control rod travel mm
29		·							

C. Settings for Fuel Injection Pump with Fitted Governor

ピツ	emp. 40°C (104°F) cm ³ /1000 strokes	Rotational- speed limitat. Note: changed to) rev/min 3	el delivery aracteristics cm ³ /1000 strokes 5	Starting f Idle rev/min 6	cm ³ /1000 strokes	•	Control rod travel mm

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Gove	ernor	Setting	gs					ROV	<u>/ 250/</u>	<u>620-7</u>	/5 A	B 642	Ppe 214
Upper rated s	peed			Intermediate	rated spe	ed		Lower rated	speed			Sliding sl	eeve travel
		Control rod travel mm rev/min	(1a) (2a)	Degree of deflection of control lever	rev/min	Control ro travel mm		Degree of deflection of control lever	rev/min	Control r travel mm	$\overline{}$	rev/min	mm
ca.68	775 790 810 835	12,0-15 6,4-12 0 - 7	,8 2,0 7,0	ca.48	580 620 650 690	9,5-12 6,4-1 2,8- 0	2,5		200 250 330 550 670	6,8-8 4,9-7 3,6-4 3,6-4	7,1 1,0		

Torque control travel a

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load del Control-rod Test oil tem	9100	Rotational-speed (2b) limitation intermediate speed	Fuel deliv high idlé s	ery characteristics (5a) peed (5b)	Starting findle	luel delivery 6	travel	Control 5 Control rod travel
rev/min	cm [#] 1000 strokes	rev/min 48	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm3/1000 strokes 7	rev/min 8	mm 9
ca.10	mmRW	790						
						I		

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

RQV 250/875-1075 AB 642

Degree of deflection of control lever 1	í	Upper rated s	peed			Intermediale	rated spe	ed		Lower rated	speed		Sliding s	leeve travel
of control lever mm rev/min 2a 3 of control lever 4 rev/min mm 4 lever 7 rev/min mm 3 rev/min mm 11		Degree of	rev/min		(1a)					deflection				0
ca.68 1075 15,0-19,0 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000	-	of control	rod travel	mm	(2a)		rev/mเก	mm	Z . \		rev/min	mm (3	- 1	ļ
ca.68 1075 15,0-19,0 1100 7,0-14,5 1130 0 - 7,7 1170 0 ca.52 850 900 9,5-14,5 950 4,0-9,3 1170 0 13,5-16,5 ca.12 180 6,8-8,2 330 3,6-4,0 800 3,6-4,0 800 1075 1120-8,5 11	1	4	,	3		4	5	6		7	8	9	10	11
		ca.68	1100 1130	7,0-14 0 - 7	,5		850 900 950	9,5-1	4,5		330 800	3,6-4,0 3,6-4,0	350- 800 1075 1120-	1,9-2,1

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

ull-load delivery control-rod stop est oil temp 40°C	(104°F) (2)	intermediate speed (4a)		pery characteristics (5a) speed (5b) cm ⁹ /1000 strokes	Starting Idle switchin	ng point	travel	Control rod travel
ev/min cm²/1	000 strokes	rev/min 3	4	5	6	7	8	9
ca.10 mm	R₩	1105-1115*						

Checking values in brackets

40

WPP 001/4
1. Edition

En

PE 8 A 80 D 320 RS2394

EP/RSV 300-900 A4 B625 DR 300-750 A7 B625 DR 300-750 A5 B796 R

supersedes company

engine

1 - 8 - 5 - 4 - 7 - 2 - 3 - 6 0 -45 -90 -135-180-225-270-315°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,10-2,30)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	100 strokes 4	mm 2	cm ^{\$} /100 strokes 3	mm 6
1000	9	4,6 - 5,0	0,4			
	6	2,0 - 2,8				
200	6	1,0 - 0,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

300-900 A4B625DR

14 1 2	rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	11 9 1	rque control Control rod travel mm
ca.52	900 940 970	16,0 11,0 6,0	with spri	out au	xilia	ca.24 ŷ	300 100 300	6,0 19 - 21 5,7-6,3	880 350	0 1,3-1,5
2	940 1000 1100	ca. 10,6 ca. 4,0 0,3-1,0	with spri	auxil ng	iary		450 600	0,7-3,3 0 - 1	330	1,0 1,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop mp=40°C (104°F) cm ² /1000 strokes 2	Rotational- speed limitat Note changed to) rev/min	el delivery aracteristics cm ³ /1000 strokes 5	Starting for its starti	cm ² /1000 strokes	Control rod travel mm
ca.10 Carry	mm RW out adjustment	910 on engine				

Checking values in brackets

* 1 mm less control rod travel than col 2

8.77

BOSCH

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B. Governor Settings

Degree of deflection	rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm		rque control Control rod travel mm
ca.45	750 775 800	16,0 11,3 5,9	*			ca.22	300 100 300	6,0 19 - 21 5,7-6,3	750	0
20	780 850 950	8,6-11,6 1,9- 3,7 0,3- 1,0	**				450 550	0,3-3,0	400	0,3-0,5

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F) cm³/1000 strokes 2	Rotational- speed limitat. Note: changed to) rev/min 3	el delivery aracteristics cm ³ /1000 strokes 5	Starting f Idle rev/min 6	cm ³ /1000 strokes	•	Control rod travel mm
ca. ***	10 mm RW	760					

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

300-750 A5B796R

Degree of deflection of control lever	r rated speed Control rod travel mm		intermed	liate rated	speed 6	Control- lever deflection in degrees 7		rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
ca.35	750 800 825	16,0 11,0 8,0		thout ring	auxil	ca.18 iary	300 190 300	6,0 19 - 21 5,7-6,3	750	0
29	750 825 975	ca. 10,5 ca. 5,3 0,3-1,0		th aux ring	iliar	,	400 530	2,4-4,0	375	1,2 - 1,8

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop emp. 40°C (104°F)	6 Rotational- speed limitat.		el delivery eracteristics	Starting f	uel delivery 5	(4a) Idle	e stop Control rod travel
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1 000 s trokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9
ca.	10 mm RW	760						
***	Carry out adjus	tment on eng	ine		<u>.</u>			
1								<u> </u>

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4

1. Edition

PES 3 A 75 D 310 RS1215

EP/RSV 250-900 A7 B749DL (1)

supersedes

PES 4 A 75 D 410 RS1215

EP/RSV 250-900 A7 D719DL (2)

company engine

Steyr WD 308 s (1) WD 408 s (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,45 + 0,1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/miñ	mm 2	cm ³ /100 strokes	cm ³ / 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	3,9 - 4,2	0,4			
	6	1,4 - 2,0				
200	9	1,8 - 2,4				

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

estoil-ISO 41

11 1 1 1 1	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	hate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	9	rque control Control rod travel mm
ca.60	900 950 980	16,0 10,0 5,2	without auxilian spring			ca.25	250 100 250	6,0 19,0-21,0 5,7- 6,3		0 0,1-0,3 0,2-0,4
29	1000	8,4-11,0 3,1- 5,1 0,3- 1,0	with auxiliary spring			400 550	1,3- 3,7 0 - 1,0			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	Rotational- speed limitat		iel delivery paracteristics	Starting fi	Starting fuel delivery 5 4a Idle stop			
Test oil to	cm³/1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9	
(1) 900	61,0 - 63,0	930-940*			100	16,0-16,6		•	

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

	r rated speed Control rod travel mm		Interme	diate rat	ed speed	Control- lever deflection in degroes	Lower rev/min	Control red travel mm		rque control Control rod travel mm
ca.60	900 950 980	16,0 10,0 5,2	1	out a	uxilia	ca.25	250 100 250	6,0 19,0-21,0 5,7- 6,3	350	0 0,1-0,3 0,2-0,4
2	950 1000 1070	8,4-11,0 3,1- 5,1 0,3- 1,0					400 550	1,3-3,7	1	

C. Settings for Fuel Injection Pump with Fitted Governor

Pull-load stop Test oil temp. 40°C (104°F)		Note:		Fuel delivery characteristics		uel delivery 5	Idle stop Control rod	
rev/min	cm³/1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/กะเก 6	cm³/1000 strokes 7	rev/min 8	mm 9
(2) 900	58,0-60,0	930-940*			100	16,0-16,6		
								and then co

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	rated speed Control rod travel mm	Control rod travel mm rev/min	Interme	diate rated	speed	Control- lever deflection in degrees 7	rated speed Control rod travel mm 9	O	rque control Control rod travel mm
	-			<u> </u>			*		
29									

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop emp. 40°C (104°F)	Rotational- speed limits?		el delivery aracteristics	Starting f	uel delivery 5		stop Control rod travel
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 1. Edition

PES 6 A 95 D 420 LS3024

EP/RSV 375-1100 A2 B799DR

supersedes company

Case

Pay attention to special setting as per W 400/307 for Case CO.!engine

A 504 BDT

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,0 + 0,1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min		cm3/100 strokes	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	8,4 - 9,0	0,4			
	6 15	4,0- 5,0 16,5-17,8				
200 ·	6	1,5- 2,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

000000	r rated speed Control rod travel mm		interme	diate rat	ed speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm 9	rev/min	rque control Control rod travel mm
ca.43	1120 1160 1190	9,5 5,0 2,0		without auxiliar spring			375 150 375	5,7 19 - 21 5,4-6,0	1100	0
2a	1140 1200 1260	9,2-9,8 2,6-4,0 0 - 1	with spri		iliary		450 550	2,0-3,5	500	0,1-0,4

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		Fuel delivery characteristics		lel delivery 5	Idle stop	
Test oil to rev/min 1	emp 40°C (104°F) cm3/1000 strokes 2	Note changed to 1 rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm#1000 strokes 7	rev/min 8	travel mm 9
1100	94,5-96,5	1140-1150*	800 700	94,0-97,0 max. 96,0	100 375 1200	134-144 18- 22 15- 23		

Checking values in brackets

* 1 mm less control rod travel than col 2

6.79

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VDT-WPP 001/4

7. Edition

En

PES 4 A 85 C 420 LS 2263 .. D ... LS 2459 EP/RSV 375-1100 A 2 B 579DR A 2 B 649DR supersedes 16.9.70,17.2.71
Case 29.4.71
A301 BD 15.2.72
engine 20.7.72

Test with case overflow valve!
Pay attention to special governor setting!

20.7.72 24.11.72

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fael Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/m ^{·n}	mm 2	cm³/100 strokes	cm³/ 100 strokes 4	mm 2	cm ^{\$} /100 strokes 3	mm 6
1000	9	4,1 - 4,5	0,4			
	6 12	1,1 - 1,9 7,2 - 8,0				
200	6	0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

	r rated speed Control rod travel mm		Interme	ediate rated	speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm 9	1 5 7	rque control Control rod travel mm
ca.43	1120 1160 1210	11,4 7,4 2,2		without spring		ca.22 liary	375 150 375	7,2 19 - 21 6,9-7,5	1100 900	0,3-0,5
29	1140 1200 1300	11,2-11,8 4,5- 5,8 0,3- 1	**	with au spring	xilia	ry	450 600	3,6-5,2 0 - 1	ł	0,4-0,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	III-load stop	Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	(4a) Idle	e stop
Test oil te rev/min	st oil temp 40°C (104°F) Note changed		rev/min	cm ³ /1000 strokes 5	rev/min	cm ^{-/} 1000 strokes 7	rev/min 8	Control rod travel mm 9
1100	73,5 - 75,5	1140-1155*	750 650	75,5-78,5 max. 77,0	100	12,7-13,8	100	15,5- 19,5
			1200	6,5-14,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

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4

3. Edition

En

PES 6 A 90 D 420 LS2354 LS2461 EP/RSV 375-1050A2B 723 DR

supersed∈s

company

Case A 451 BDT

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 41

2,15 + 0,1

mm (from BDC

	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min		cm³/100 strokes	cm ³ / 100 strokes 4	mm 2	cm ^{\$} /190 strokes 3	mm 6
1000	9	4,6 - 5,1	0,5			
200	6 12 9	1,1 - 2,0 8,4 - 9,4 2,7 - 3,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm	-	Intermed	tate rated	speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm 9	11 3 1	rque control Control rod travel mm
ca.40	1070 1100 1140	13,5 9,8 3,4	with spr	nout an	uxilia	ca.17 ry	375 150 375	7,1 19 - 21 6,8-7,4	1050	0,2-0,5
29	1090 1150 1220	13,2-13,8 4 - 6 0,3-1,0	with spr	n auxi ing	liary		410 560	2,0-4,2 0 - 1		.,_

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(A)	ill-load stop	6 Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	48 Idle stop		
rev/min	emp 40°C (104°F) cm³/1000 strokes	Note: changed to) rev/min	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7		travel mm 9	
1050	111,5-114,5 110,5-115,5	1090-1105*	800 700	114,0-118,0 113,0-119,0 max. 117,0	100	13,5-14,5	375 cm ³ /1	15,25- 19,25 000 H	

Checking values in brackets

* 1 mm less control rod travel than col 2

3.76

BOSCH

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VDT-WPP 001/4

2. Edition

PE 4 A 90 D 321 RS 2444 PE 6 A 90 D 321 RS 2432 EP/RSV 325-1500 A5 B642DR EP/RSV 325-1500 A5 B642DR supersedes company

9.75 Baudouin

1 - 4 - 2 - 3 0 -45 -135-270° 1 - 4 - 3 - 6 - 5 - 2 0 - 75-120-195-240-315° entaine

DF 4, DF 6

Test with "B-lines"

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2.15 - 2.25

mm (from BDC)

vei			travel		(torque-control valve)
	cm3/100 strokes	cm ³ / 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
9	3,1 - 3,5	0,4			
6 12 9	0,5 - 1,2 5,6 - 6,5 0,7 - 1,5				
n	9	9 3,1 - 3,5 6 0,5 - 1,2 12 5,6 - 6,5	9 3,1 - 3,5 0,4 6 0,5 - 1,2 12 5,6 - 6,5	9 3,1 - 3,5 0,4 6 0,5 - 1,2 12 5,6 - 6,5	9 3,1 - 3,5 0,4 2 3 6 0,5 - 1,2 5,6 - 6,5

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

EP/RSV .. 642 DR

O Transported												
		Intermed	tiate rated	speed	(Lowe		Torque control				
Control rod travel	Control rod travel				Control- lever		travel		travel			
mm	mm rev/min		_		deflection in degrees				mm 11			
2	3	4	5	6	7 24	°		,,,				
1440	16,0					325	8,7	1300	0			
1520	10,0			uxilia	ry	150	19 - 21					
1590	3,0	Spri	ng					300	0,8-1,0			
1300 1550 1630	ca. 10,3 6,2-7,6 0,3-1,0		with auxiliary spring			600	2,7-4,9					
	rated speed Control rod travel mm 2 1440 1520 1590 1300 1550	rated speed rev/min Control rod travel mm m rev/min 2 3 1440 16,0 1520 10,0 1590 3,6 1300 ca. 10,3 1550 6,2-7,6	rated speed rev/min Control rod travel mm rev/min 2 3 4 1440 16,0 1520 10,0 with spri 1300 ca. 10,3 1550 6,2-7,6 with	rated speed rev/min Control rod travel mm rev/min 2	rated speed rev/min Control rod travel mm rev/min 2	rated speed rev/min Control rod travel mm rev/min 2	Control rod travel mm rev/min 2	rated speed rev/min Control rod travel mm rev/min 2	rated speed rev/min Control rod travel mm rev/min 2 1440 16,0 1520 10,0 1590 3,6 1590 3,6 1300 ca. 10,3 1550 6,2-7,6 1550 6,2-7,6 1550 6,2-7,6 1550 6,2-7,6 1550 1550 6,2-7,6 1550 1550 6,2-7,6 1550 1550 1550 1550 6,2-7,6 1550 1550 1550 1550 1550 1550 1550 155			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F) cm2/1000 strokes	Rotational- speed limitat Note changed to .) rev/min 3		ei delivery aracteristics cm ³ /1000 strokes 5	Starting fi Idle rev/min 6	cm ³ /1000 strokes	49	Stop Control rod travel mm 9
1300	6 Zyl.) 54,5-56,5	1520-1530*	1540- 3 mm	1550 = R₩ less	325	8,25-14,25	325	8,7

Checking values in brackets

* 1 mm less control rod travel than col 2

1.78

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WPP 001/4

1. Edition

En

PES 4 A 85 D 210 RS 1286

EP/RSV 300-1150 A 2 B 708 D

supersedes company

engine

3.74 Brown, England 45 500 31

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,7 - 2,8

mm (from BDC) (2,65-2,85)

Rotational	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strekes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
800	9,8	6.0 - 6,2	0,3(0,45)	·		
300	(+0,1) 7,0 (+0,1)	0,9 - 1,7	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values of

B. Governor Settings

Testoil-ISO 4113

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	clate rate	ed speed	Control- lever deflection in degrees 7	rev/min 8	rated speed Control rod travel mm 9	11 9 1	rque control Control rod travel mm
ca.45	1150 1210 1270	16,0 11,2 5,0	with spr	_	auxilia	ca.18 ry	300 100 300	7,0 19 - 21 6,9-7,1	1130 350	0 1,2-1,8
ca .43	1150 1230 1320	ca. 9,8 ca. 4,0 0,3-1,0					380 480	1,8-4,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat		el delivery aracteristics	Starting fo	ael delivery 5		Stop Control rod travel
rev/min	cm\$/1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9
800	61,0-62,0 (59,0-64,0)	1190-1200* (1185-1205)			100	114,5-124,5 111,5-127,5)	300	7,0

Checking values in brackets

* 1 mm less control rod travel than col 2

1.76

40

VDT-WPP 001/4

8. Edition

En

PES 4 A 85 C 420 LS 2263 D 420 LS 2459 EP/RSV 300-1000 A 2 B 547 DR 375-1000

supersedes

engine

19.4.72 C a s e A301 BD

Test with case overflow valve!

Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Renches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm\$100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4			
200	6 12 6	1,1 - 1,9 7,2 - 8,0 0,9 - 1,7				,

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	diate ra	ted speed	Control- lever deflection in degrees 7	Lowe rev/min 8	rated speed Control rod travel mm	1 2 1	rque control Control rod travel mm
ca.39	1020 1060 1110	11,4 7,2 2,0	with spri		auxilia	ca.21	375 150	7,5 19 - 21	1000	0
29	1040 1100 1200	11,0-11,6 3,6- 4,9 0,3- 1	with spri		iliary		375 450 600	7,2-7,8 3,6-5,4 0 - 1	800 400	0,8-1,0 1,5-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ll-load stop emp. 40°C (104°F)	Rotational- speed limitat	onal- limitat Section Fuel delivery characteristics			Starting fuel delivery 5 4a 1di		
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm#1000 strokes 7	rev/min 8	travel mm 9
1100	69,5-71,5	1040-1055*	600 500 10 90	84,0-88,0 max. 86,5 9,5- 17,5	100	12,7-13,3	375	15,5- 19,5

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

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WPP 001/4

1. Edition

PES 6 A 95 D 410 RS2479

RS2500

EP/RSV 600-1100 A2B771L,774L EP/RSV 400-1100 A7B772L EP/RSV 400-1200 A2B773DL

supersedes company

engine

John Deere 6404 T

Test-pressure line 6 x 2 x 600 Inlet pressure 1.5 bar

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9+0,1 (-0,05)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ^{3/} 100 strokes 4	Control rod travel mm 2	Fuel delivery cm\$/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,5 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				
	Por	t closing mark	14° afte	port clos	ing cylinder 1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

estoil-ISO 41

600-1100 A2B771 L

	r rated speed Control rod travel mm 2		Intermed	Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7		rated speed Control rod travel mm		que control Control rod travel mm
ca.40	1100 1150 1170	9,2 6,0 3,6	with spri	out ai	uxilia	ca.23 ry	600 200 600	5,1 19 - 21 4,8-5,4	1080	0,7-1,3
29	1100 1170 1270	ca. 9,2 4,6-5,6 0,3-1,0	with spri	auxi' ing	liary		700 800	1,8-3,2	400	0,7-1,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 b	,	I-load stop	Rotational- speed limitat	38 Fu	el delivery aracteristics	Starting fuel delivery 5 da Idle stop			
rev/n		111D 40 0 (104 1)	Note changed to .) rev/min	rev/min	cm ³ /1 000 strokes 5	rev/min	cm ³ /1000 strokes 7		travel mm
11	00	85,5 - 87,5	1140-1150* (1135-1155)			100 600 1175	159,0- 179,0 12 - 16 21 - 27	600	5,1
(ii	ncr	ease by ± 2,0 c	n³!)						

Criecking values in brackets

* 1 mm less control rod travel than col. 2

9.76

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung £ 1980 by Robert Bosch GmbH, Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

B. Governor Settings

12	effection travel travel control mm mm rev/min ver 2 3		Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7	- Lower	rated speed Control rod travel mm 9	rque control Centrol rod travel mm	
ca.70	1100 1120 1140	11,0 7,5 4,0	*			ca.29	400 150 400	6,0 19 - 21 5,7-6,3	
29	1100 1150 1240	10,0-12,0 3,5- 5,5 0,3- 1,0	**				500 630	2,0-4,0	

C. Settings for Fuel Injection Pump with Fitted Governor

	li-load stop emp. 40°C (104°F)	Rotational- speed limitat.		ei delivery aracteristics	Starting fo	uel delivery.	Control rod	
	cm³/1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
1080	85,5 - 87,5	1110-1120* (1105-1125)			100 400 1150	159 - 179 12 - 16 14 - 20	400	6,0
(inc	rease by ± 2,0 (m³!)			1130	14 - 20		

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

400-1200 A2B773DL

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	Intermediate rated speed 4 5 6				rated speed Control rod travel mm	12 0 1	rque control Control rod travel mm
ca.47	1200 1280 1320	16,0 9,1 . 5,0	*	withou spring		ca.19 iliary	400 200 400	5,8 19 - 21 5,5-6,1	1200	0
ca .45	1200 1270 1400	ca. 9,6 ca. 5,1 0,3-1,0	**	with a spring		ary	500 750	3,6-4,1 0 - 1	600	0,5-0,7

C. Settings for Fuel Injection Pump with Fitted Governor

	ili-load stop emp. 40°C (104°F)	Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	⊕ ldk	e stop Control rod
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9
1200	85,5 - 87,5	1240-1250* (1235-1255	800	92,0-95,0	100 400 1295	159 - 179 12 - 16 21 - 27		5,8

Checking values in brackets En

* 1 mm less control rod travel than col. 2

B. Governor Settings

600-1100 A2B774L

	r rated speed Control rod travel mm		Intermed	fiate rated	speed	Control- lever deflection in degrees 7	- Lower rev/min 8	rated speed Control rod travel mm 9	18.01	rque control Control rod travel mm
ca.40	1100 1150 1170	9,2 6,0 3,6	with spri	out au ng	xiliaı	ca.23 y	200 600 600	5,1 19 - 21 4,8-5,4	1080 400	0 0,7-1,0
20	1100 1170 1270	ca.9,2 4,6-5,6 0,3-1,0				, ,	700 800	1,8-3,2		

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational-speed limitat. Speed limitat. Speed limitat.				Starting fuel delivery 5 delivery 1 delestop Control re			
rev/min	cm ³ /1000 strokes	changed to) rev/min	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9	
1100	79,5-81,5	1140-1150* (1135-1155)			100 600 1175	159-179 12- 16 21- 27	600	5,1	
(inci	rease by ± 2,0 c	m³							

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

(1) Uppe	r rated speed		Interme	Intermediate rated speed			Lower rated speed			rque control
Degree of deflection of control	Control rod travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	travel	rev/min	travel mm
lever 1	2	3	4	5	6	7	88	9	10	11
			1							l I
			7							
20										

C. Settings for Fuel Injection Pump with Fitted Governor

	li-load stop	6 Rotational- speed limitat	nitat. See the delivery characteristics			uel delivery 5	Idle stop		
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1 000 s trokes 5	rev/min 6	cm³/1000 strokes 7		travel mm 9	
1						<u> </u>	<u> </u>		

Checking values in brackets En

* 1 mm less control rod travel than col. 2

WPP 001/4

4. Edition

PES 6 A 90 D 410 LS2355 PES 12A 90 D 610 LS2360

EP/RSV 250-1250 A18623L

supersedes

3.74

PES 8 A 90 D 410 LS2373 PES 10A 90 D 610 LS2374

EP/RSV 250-750 A7 B623L

company engine

Motori VM

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing difference between

Port closing at prestroke 3,3+0,1 RW9

Testoil-ISO 4113

mm (from BDC)

control-rod travel 9 and 21 6,5-7,5°

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm3/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm\$100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,0 - 5,5	0,4			
	6	1,6 - 2,6				
200	9	1,7 - 2,9				
	·					

Appast the fuel delivery from each outlet according to the values in [

B. Governor Settings

250-1250

34	r rated speed Control rod travel mm		interme	Intermediate rated speed			Lowe rev/min 8	r rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
ca.69	1250 1290 1330 1330 1350 1450	16,0 11,8 6,6 9,2-11,6 2,6-5,8 0,3-1,0	spri	without auxiliar spring with auxiliary		ca.26 ry	250 100 250 350 450	5,5 19 -21 5,7-6,3 0,5-3,0 0 - 1	1230 400 290	0 0 1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop	Speed miniat		nel delivery naracteristics	Starting f	uel delivery 5	4a Idle stop	
	emp 40°C (104°F) cm ³ /1000 strokes 2	Note. changed to .) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm:/1000 strokes 7	rev/min 8	Control rod travel mm
ca.10	mm RW ·	1270						
Carry	out adjustment	on engine						

Checking values in brackets

* 1 mm less control rod travel than col. 2

9.79

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Ppe 2355...

B. Governor Settings

Degree of deflection	deflection of control man mm resimin lever 1 2 3			Intermediate rated epace				rated speed Control rod travel mm		rque control Control rod travel mm
ca.47	750 780 810	16,0 11,6 5,4	with spri	out au	si lixi	ca.22 ry	250 100 250	5,5 19 - 21 5,7-6,3	730 400	0 0
②	800 850 920	5,0-9,0 1,4-3,0 0,3-1,0	with spri	auxii ing	liary		350 420	0,5-3,0	300	1,2 = 1,8

C. Settings for Fuel Injection Pump with Fitted Governor

	ll-load stop	Rotational- speed limitat:		Fuel delivery characteristics		uel delivery (5)	Idle stop	
	cm ³ /1000 strokes	Note: changed to) rev/min 3	rev/min	cm²/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
ca.	10 mm RW	760						
- Ca	rry out adjustm	ent on engi	е					
			İ					

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	Intermed	diate rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
23									

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop emp. 40°C (104°F) cm²/1000 strokes	Rotational- speed limitat. Note: changed to) rev/min	3a Fu ch rev/min 4	el delivery aracteristics cm ³ /1000 strokes 5	Starting f Idle rev/min 6	cm ³ /1000 strokes	•	Control rod travel mm
•	_							
				-				

Checking values in brackets En

VDT-WPP 001/4

3. Edition

PE 4 A 90 D 321 RS 2375

PE 6 A 90 D 321 RS 2390

1-4-2-3 0 -45-135-270° EP/RSV 250-1500 A5 B642DR EP/RSV 325-1500 A5 B642DR

1-4-3-6-5-2 0 - 75-120-195-240-315°

Testing with T nozzles and fuel lines $6 \times 2 \times 600$!

company

supersedes

9.75 Baudouin DA 4 (4 Cyl.) DF 6 (5 Cyl.)

All lest specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

2,15 + 0,1

A. Fuel Injection Pump Settings

Port closing at prestroka

mm (from BDC)

Rotational speed	Control rod travél	Fuel delivery	Difference cm3/	Centro! red Inave!	Fuel delivery	Spring pre-farisioning thorque-contint valve)
rev/min	mm (2)	cm3/100 strukes	100 strakes	f voor	cm#100 strokes	mm
1	2	3	4	2	3	6
1000	9	4,6 - 5,1	0,4			
	6 12	2,3 - 3,3 7,0 - 8,0				
200	9	2,4 - 3,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

250-1500

+ PE 4 A ..

	r rated speed Control rod travel mm		Intermed	trate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
ca.65	1500 1550 1580 1550 1600 1720	16,0 10,3 7,0 11,4-13,4 4,3- 6,6 0,3- 1,0	spri	auxi1		ca.19 'Y	275 100 275 400 500	7,0 19 - 21 5,7-7,3 0 -2,8 0 - 1	1480 300	0 0,8-1,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)	Rotational- speed limitat Note.	Fuel delivery characteristics					e stop Control rod travel
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ¹ /1000 strokes 7	1	mm 9
1400	62,0 - 64,0	1540-1550					275	0

Checking values in brackets

* 1 mm less control rod travel than col. 2

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B. Governor Settings

	r rated speed Control rod travel mm					Control- lever deflection in degrees 7		rated speed Control rod travel mm 9		rque control Control rod travel mm
ca.65	1500 1550 1620	16,0 10,7 2,0	with spri	out au ng	ıxilia	ca.20 ry	325 150 325	8,7 19 - 21 8,4-9,0	1480	
29	1500 1570 1700	ca.10,3 ca. 4,0 0,3-1,0	with spri	auxil ng	iary		450 600	1,2-4,5 0 - 1	300	0,8-1,0

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational-speed limitat. Note: changed to)			Starting f	uel delivery (5)	(4a) idle stop Control r travel		
rev/min	cm³/106trokes	rev/min	rev/min 4	cm ³ /1 000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9	
1400	62,0 - 64,0	1530-1540					325 cm³/1	10,25- 14,25 000	

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	Control rod travel mm	Intermed	liate rated	speed	Control- lever deflection in degrees 7	rated speed Control rod travel rnm 9	rque control Control rod travel mm
29							

C. Settings for Fuel Injection Pump with Fitted Governor

emp. 40°C (104°F) cm ³ /1000 strokes	Rotational- speed limitat. Note: changed to) rev/min 3	el delivery aracteristics cm³/1000 strokes 5	Starting f Idle rev/min 6	cm³/1000 strokes	Control rod travel mm
	·				

Checking values in brackets En

127

* 1 mm less control rod travel than col. 2

î.

40

VDT-WPP 001/4 2. Edition

En

PES 6 A 85 C 420 LS 2264 .. D .. LS 2460

EP/RSV 375-1050 A & B 667 D

supersedes

1.12.72

company angine Case A 451 BD

lest with case overflow valve!

Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm3/100 strokes 3	Difference cm²/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve) mm
1000	9	4,1 - 4,5	0,4			
	6 12	1,1 - 1,9 7,2 - 8,0				
200	ő	0,9 - \$,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
ca.45	1070 1120 1170	10,7 6,4 2,6		without auxilia spring			375 150	6,7 19 - 21	1050 800	0 0,7 - 0.9
23	1090 1150 1260	10,2-10,8 4,6- 5,4 0,3- 1	with spri	auxil ng	iary		375 450 580	6,4-7,0 3,2-4,7 0 - 1	500	0,7 - 0,9 1,0 - 1,3

The numbers denote the seguence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop	6 Rotational- speed limitat		el delivery Starti aracteristics Idle		Starting fuel delivery 5 4a Idle stop			
rev/min	emp 40°C (104°F) cm ⁸ /1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm	
1050	67,5 - 69,5	1090-1105*	650 550	76,5-80,5 max. 79,0	100	12,7-13,3	375	12,5- 16,5	
			1150	6,5-14,5					

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

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WPP 001/4 1. Edition

PES 6 A 95 D 410 RS2479

EP/RSV 400-1100 A2B768DL 400-1100 A2B769DL

company John Deere

Testing with T nozzles and fuel lines $6 \times 2 \times 600!$

Inlet pressure 1.5 bar

Manifold-pressure compensator (LDA) adjustment page 2
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

6404 T

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9+0,1 (+0,15) mm

Port closing mark cyl. 1 : 14° after port closing

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ² /100 strokes	mm 6
1000	9	7,5 - 8,0	0,4			
	6	3,2 - 4,2				7
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

400-1100 A2B768DL

Degree of deflection of control lever	rated speed Control rod travel mm	Control rod travel mm rev/min			Control- lever deflection in degrees 7	Lower rev/min 8			rque control Control rad travel mm	
ca .44	1100 1180 1220	16,0 9,8 6,0		without auxiliar			400 200 400	5,6 19 - 21 5,3-5,9	1080	0
23	1100 1200 1330	ca.9,5 ca.4,7 0,3-1,0		with auxiliary spring			500 720	3,2-4,3 0 - 1	450	0,7-1,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ili-load stop	6 Rotational- speed limitat	11361	iel delivery iaracteristics	Starting f	uel delivery (5)	(4a) Idle stop		
Test oil te rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note. changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm	
LDA 1100	0,7 bar 85,5-78,5	1140-1150*	LDA 750	0,7 bar 95,0-98,0	100 400 1200	159 - 179 12 - 16 19 - 29	100	5,6	
Incre	ase by ± 2,0 cm	3 i							

Checking values in brackets

9.76

^{* 1} mm less control rod travel than col. 2

The numbers denote the sequence of the tests

B. Governor Settings

400-1100 A2B769DL

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	liate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm 9	To rev/min 10	rque control Control rod travel mm 11
ca.44	1100 1180 1220	16,0 9,8 6,0	witho sprin	out aux	xiliar	ca.21 y	200 400	5,6 19 - 21	1080 450	0 0,7-1,0
ca.43	1100 1200 1330	ca.9,5 ca.4,7. 0,3-1,0	with sprin	auxil [.]	iary		500 720	5,3-5,9 3,3-4,4 0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	III-load stop	6 Rotational- speed limitat.	Rotational- speed limitat. 3a Fuel delivery characteristics			fuel delivery 5	(4a) Idle stop	
Test oil to rev/min 1	emp. 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
LDA 1100	0,7 bar 87,5-89,5	1140-1150* (1135-1155)		0,7 bar 97,0~\@S,0	100 400 1200	159 - 179 12 - 16 19 - 29	100	5,6

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

550

rev/min decreasing pressure – in bar gauge pressure RXX免费权XXX

Pre-setting
Dimension H = 21,8mm

Pump/governor	Setting	Measurement	diminutior Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
2479 with 768DL and 769DL	0,45	0,14 - 0,16	- 0,1 - 0,2 - 1,5 - 1,7
Switching point (hydr. measurement)	max. 0,76	mind. 0,48	9 - 11 mm RW 19 - 21 mm RW

Notes

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

En

^{* 1} mm less control rod travel than col. 2

40

VDT-WPP 001/4

4. Edition

En

PE 6 A 80 C 321 RS 2113

EP/RSV 200-1250 A18421 D, 440D EP/RSV 250-750 A78 468

supersedes

company engine

Saviem

Testing with "B" leads

130 H Z 6 P

All test specifications are valid for Bosch Fuel Injection Pump To % Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm3/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,4			
	6 15	2,2 - 3,0 11,5 -12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

estoil-ISO 41

..B 421 D,

Upper rated speed rev/min Degree of deflection of control mm Control rod travel travel mm rev/min			1 1 1 1			Control- lever		rated speed Control rod travel	Torque control Control rod travel	
of control lever 1	mm 2	mm rev/min	4	5	6	deflection in degrees 7	rev/min 8	mm 9	10	11
ca.70	1250	16,0	م والدائد .	without auxiliary spring			200	6,0	1230	0
	1300 1340	11,2 5,6					100 200	19 - 21 5,7-6,3	1000 700	0,4-0,6 1,0-1,2
2 a	1310 1340 1500	8,0-10,6 4,0- 7,2 0 - 1		with auxiliary spring			350 550	2,5-4,2	500	1,0-1,2

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	temp 40°C (104°F)	Rotational- speed limitat Note. changed to) rev/min	3a Fu ch rev/min	el delivery aracteristics cm ³ /1000 strokes	Starting fuel delivery 5 48 id idle rev/min cm:/1000 strokes rev/min 8			Stop Control rod travel mm 9
123	65,0-67,0	1260-1280	700 500 1250	70,0 - 73,0 67,5 - 70,5 mind. 65,0	100	18,7-19,3 mm RW	200 13,5- 17,5	(ca.6) cm³ 1000H

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung £ 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH. 12.75

B. Gov	ernor	Settings			• •	.440 D			Ppe	2113 -2-
Upper rated speed rev/rnin Degree of deflection of control lever 1 Upper rated speed rev/rnin Control rod travel mm rev/min 2 3			Interme	ediate rated	speed	Control- lever deflection in degrees 7	- Lowe rev/min 8	rated speed Control rod travel mm	rev/min	rque control Control rod travel mm 11
ca.70	1250 1300 1340	16,0 11,2 5,6	*			ca.25	200 100 200	6,0 19 - 21 5,7-6,3	1230	0
29	1310 1350 1480	8,0-10,6 4,0- 6,3 0,3- 1,0	**				350 550	2,5-4,2	400	0,5-0,7

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop Test oil temp. 40°C (104°F)		Rotational- speed limitat.		iel delivery iaracteristics	Starting fi idle	uel delivery 5	49 idi	Control rod	
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9	
1250	61,5 - 63,5	1290-1300*	750	58,0-61,0	100 200	134,5-144,5 13,5- 17,5	1		

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

.. B 468 D

Degree of deflection of control lever	r rated speed Control rod travel mm		Interm	nediate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	12 0 /	rque control Control rod travel mm
ca.47	750 780	16,0 11,6	* W	rithout	auxil	ca.22 ary	250	6,0		0
29	810 800 850 920	5,0-9,0 1,4-3,0 0 - 1	** W	pring with aux pring			100 250 350 420	19 - 21 5,7-6,3 0,5-3,0 0 - 1	300	1,2-1,8

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop	Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	Idle stop		
Test oil to rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min	travel mm 9	
750	76,0 - 78,0	760			100	129,5- 139,5	250	16-20	
					780	9,5-13,5			

Checking values in brackets En

* 1 mm less control rod travel than col. 2

VDT-WPP 001/4

7. Edition

PES 4 A 85 C 420 LS 2263 .. D .. LS 2459

EP/RSV 375-1100 A 2B 554 DR A 2B 650 DR

supersedes company

engine

20.7.72 Case

Test with case overflow valve!

A 336BD

Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
ray/min 1	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ^{\$} /100 strokes 3	mm 6
1000	9	4,1 - 4,5	0,4			
	6 12	1,1 - 1,9 7,2 - 8,0				
200	6	0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

..554 DR, .. 650 DR

	deflection of control ever 1 2 3			Intermediate rated speed 4 5 6			Lowe rev/min 8	r rated speed Control rod travel mm	11 3 /	rque control Control rod travel mm
ca.39	1120 1160 1200	12,2 7,4 2,4	with spri		uxilia	ca.17	375 150 375	7,7 19 - 21 7,4-8,0	1100 900	0
28	1140 1200 1300	12,0-12,6 4,3- 5,6 0,3- 1	with spri	auxi ng	1iary		450 580	3,3-5,4 0 - 1	500	0,4-0,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

Test oil te	ill-load stop emp 40°C (104°F)	Rotational- speed limitat Note. changed to)	Note. characteristics			uel delivery 5	Control rod travel		
rev/min	cm ³ /1000 strokes	3	4	5	rev/min 6	7	8	9	
1000	80,5-82,5	1140-1155*	750 600 1200	86,0 - 89,0 max. 88,0 6,5-14,5	100	12,7-13,3	375	18,5- 22,5	
								./.	

Checking values in brackets

* 1 mm less control rod travel than col 2

8.74

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WPP 001/4 3. Edition

PES 4 A 85 D 420 RS 2263 RS 2459 EP/RSV 375-875 A 7 B 696 R

supersedes

сотралу

engine

Case A 301 BD

Test with case overflow valve! Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15+0,1

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ⁹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4			
	6 12	1,1 - 1,9 7,2 - 8,0				
200	6	0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	Intermediate rated speed 4 5 6			Lower rev/min 8	rated speed Control rod travel mm		que controi Control rod travel mm
ca.58	885 930 960	13,6 6,8 1,8	with spri	out au	xilia	ca.30	375 100 375	8,0 19 - 21 7,7-8,3	875 350	0,2-0,8
23	960	6,3-8,0 2,5-5,3 0,3-1,0	with auxiliary spring				450 550	2,0-4,7 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	Rotatronal- speed limitat		iel delivery naracteristics	Starting	luel delivery 5	4a Idie stop	
Test oil to rev/min 1	cm ³ /1000 strokes	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm 9
875	97,5-99,5	880-895	900	69,5 - 92,5	100	12,7-13,3	375	15,5- 23,5
			940	11,5 - 19,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

8.74

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40

WPP 001/4 HOR 2,0 a

1. Edition

En

PES 3 A 65 D 410/3 RS 1274

EP/RSV 400-1225 A1B1099DL

supersedes -

company engine Holder VD 3

1 - 2 - 3 0 -120-240° +0,50 (+0,75)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,85-2,05)

mm (from BDC)

RW 6,0 mm

11010101101101	Control rod	Fuel deliver	giii di di di	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min		cm ² /100 strokes 3	cm ^{3/} 100 strokes 4	mm 2	cm ^{\$} /100 strokes 3	mm . 6
1225	7,4-7,5	3,0-3,2	0,2(0,3)			
400	6,0		0,2(0,3)			
1000/500		C, 4 - 5	0,2(0,35)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of	r rated speed Control rod travel mm		Intermed	hate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rev/min	rque control Control rod travel mm 11
loose	800	0,3 - 1,0				ca.26	400 100 400	5,4-5,6 min. 19 6,0-6,2	1225 700	± 0,1 7,4 8,2
ca.65	6,4 4,0 1450	1265-1275 1285-1315 0,3-1,7		•			510-56 650	0 = 2,0 0 - 1	450	8,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(29)	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat		el delivery aracteristics	Starting fi	uel delivery 5	Idle stop	
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rav/min	cm ⁴ /1000 strokes 7	rev/min 8	travel mm 9
1225	30,5 - 31,5 (29,5 - 32,5)	1265-1275	1000	27,5-29,5 (26,5-30,5)	100	54,5-69,5 (min. 54,5		
			500	31,5-33,5 (30,5-34,5)				

Checking values in brackets

* 1 mm less control rod travel than col. 2

12.77

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WPP 001/4 FOR 4,2 f

1. Edition

En

.. B790L

PES 4 A 90 D 210 RS2505

EP/RSV 350-1300 AO B677L

supersedes company

engine

Ford GB Dorset 254 CU

Spring pre-tensioning (torque-control valve)

1 - 2 - 4 - 3 je 90°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC)

POR Closing at	(2,	45-2,65)			
Rotational	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery
rev/min		cm3/100 strokes	cm ^{S)} 100 strokes 4	mm 2	cm ⁹ /100 strokes 3
1					

rev/min	mm 2	cm ³ /100 strokes	cm ^S / 100 strokes 4	mm 2	cm ^{\$} /100 strokes 3	mm 6
1250	11,0	7,0-7,1	0,3(0,45)			
350	+0,1 8,4-8,5	0,9-1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

..677L

	deflection of control mm mm rev/min			Intermediate rated speed 4 5 6			Lower rev/min 8	3 To	rque control Control rod travel mm	
loose	800 ×	0,3-1,0 1,7				ca.15	350 100 350	6,5 min.19 6,9-7,1		
ca.56		375 = 10.0 555 = 4,0 0,3-1,7					440-500 600	= 2,0 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

Test oil to	emp 40°C (104°F) cm3/1000 strokes	Rotational- speed limitat Note: changed to) rev/min 3	el delivery aracteristics cm ³ /1000 strokes 5	Starting fi Idle rev/min 6	cm ³ /1000 strokes	Control rod travel mm 8	
1250	70,0-71,0 (68,0-73,0)	1365-1375*		100	94,25- 114,25	350	7,0

Checking values in brackets

* 1 mm less control rod travel than col. 2

7.73

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Testoil-ISO 4113

B. Governor Settings

					Control- lever deflection in degrees 7	ever leflection rev/min		rev/min	rque control Control rod travel mm	
loose	800 x =	0,3-1,0 1,7 375 = 10,0			·	ca.15	350 100 350 440-500	6,5 min.19 6,9-7,1 = 2,0		
ca.56	1525-1	555 = 4,0 0,3-1,7					600	0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

	Il-load stop emp. 40°C (104°F)	Rotational-speed limitat. Sa Fuel delivery characteristics				uel delivery 5	49 Idl	Idle stop	
rev/min	cm ³ /1000 strokes	changed to) rev/min	rov/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	travel mm 9	
1250	70,0-71,0 (68,0-73,0)	1365-1375*			800-	94,25- 114,25 ngagement 1000/min-l er also to		7,0 .2c)	

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

1	effection fravel travel fravel mm rev/min sver 2 3		intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rque control Control rod travel mm 11
			3						
29									

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	Il-load stop	6 Rotational- speed limitat.	30 Fu	el delivery aracteristics	Starting fuel delivery 5 4e Idle stop				
	emp. 40°C (104°F) cm³/1000 strokes	Note: changed to) rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm	
1	2	3			<u> </u>				
			-						
					<u> </u>		<u> </u>		

Checking values in brackets En

* 1 mm less control rod travel than col. 2

WPP 001/4 FOR 6,2 a 2. Edition

En

PES 6 A 90 D 210 RS 2506, Z EP/RSV 350-1300 A0 B791L

supersedes company

engine

7.78 Ford GB Parent Bore

.. RS 2506.Z

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,45-2,65)

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery	Oifference cm³/ 100 strokes	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
1250	11,0	7,0 - 7,2	0,3(0,45)	2.	3	6
350	+0,1 8,4-8,5	0,9 - 1,6	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

..791L

Degree of	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
loose	800 x =	0,3-1,0				ca.20	100	7,1 min. 19	-	-
ca.56	1510-1	355 = 10.0 $540 = 4.0$ $0.3 - 1.7$					350 495-5 600	7,5-7,7 55 = 2,0 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp. 40°C (104°F)	6 Rotational- speed limitat		uel delivery naracteristics	Starting I	fuel delivery 5	idle stop		
rev/min 1	cm ³ /1000 strokes 2	changed to) ভগ/min	rev/min 4	cm ¹ /1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	Control root travel mm	
1250	70,5-71,5 (68,5-73,5)	1345-1355*			100	94,25- 114,25	350	7,6	
1250	66,5-67,5 (64,5-69,5)	1345-1355*	600	43,0-49,0 (41,0-51,0)					
								./.	

Checking values in brackets

* 1 mm less control rod travel than col. 2

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1.79

"Z"

estoil-JSO 411

B. Governor Settings

	r rated speed Control rod travel mm		Interme	ediate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm 9	rev/min	rque control Control rod travel mm
loose	800 x	0,3-1,0 0 2,0				ca.20	350 100	7,1 min.19 7,5-7,7	-	-
ca.56	1510-1	355 = 10,0 540 = 4,0 0,3-1,7					350 470- 53 600	0 = 2,0 0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

	Pull-load stop Test oil temp. 40°C (104°F)		Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5		Stop Control rod
		cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7		travel mm 9
	1250	70,5-71,5 (68,5-73,5)	1345-1355*			100	94,25 114,25	350	7,6
"Z'	1250	66,5-67,5 (64,5-69,5)	1345-1355*	600	43,0-49,0 (41,0-51,0)	800-1	gagement s 000/min ⁻¹ r also to	[2c)

Checkir - alues in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	of control mm mm rev/min		Interme	ediate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	11 0	rque control Control rod travel mm
29						· ·				

C. Settings for Fuel Injection Pump with Fitted Governor

Test oil te	emp. 40°C (104°F)	Rotational- speed limitat. Note: changed to)		el delivery aracteristics cm ³ /1000 strokes	Starting f	uel delivery 5	Control ro		
rev/min	2	3	4	5	6	7	8	9	

Checking values in brackets

* 1 mm less control rod travel than col. 2

estoil-ISO 411

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 DAF 8.3 b

2. Edition

PE 6 A 95 C 410 RS2311

(1) RQ 225/1200 AB766L EP/RSV 250-1200 A5 B584L.. (2)

8.73 supersedes DAF company: DU 825

Test with overflow valve and "B" lines

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,0+0,1 - RW 9 mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	7,4 - 7,8	0,4			
	9	3,1 - 3,8				
200	9	1,2 - 2,0				
**		ing difference mshaft.	between o	ontrol-re	d travel 9 mm	nd 21 =

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RO..AB766 L (1)

Checkin PRG che	g of slider ick	Full-load s		•	cifications (4)	Idle speed regulation Setting point Test specifications 5				Torque o		3)
rev/min	Control rod travel mm 2	rev/min 3	Control rod travel mm	Control rod travel mm -	rev/min	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm	rev/min	Control rod travel)
1ev	ntrol	650	20,0		0 -10,6		0	250	9,8-11,7 7,3- 9,9 4,2- 7,0 0		-	•

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics	Starting findle spee	uel delivery d 1 Control
rev/min	cm³/-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes	rev/min	red travel cm ³ /1000 strokes:// mm 7
LDA 1000	0,45 bar 99,0 - 101,0		LDA 1000	0 bar 1mmRW less	100	ca. 20 mm RW
600	77,5 - 79,5					
						./.

Chacking values in brackets

1.78

B. Governor Settings

EP/RSV..584L (2)

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	Intermediate rated speed			Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
ca.56	1200 1260 1330	16,0 11,7 5,6	witho sprin	out aux	ciliar	ca.22 y	250 150 250	6,0 19 - 21 5,7-6,3	1180	0 0,1-0,3
29		8,7-10,8 2,3- 5,5 0,3- 1	with sprin	auxili ng	iary		350 470	2,1-3,8	300	0,8-1,0

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	43 Idk	stop
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
LDA 1200	0,45 bar 99,5-97,5	1210-1220*	LDA 1200	0 bar 1 mm RW 1ess	100	min. 20 mmRW	250	5,0

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n = 500 rev/min decreasing pressure - in bar gauge pressure (1)

Pump/governor	Setting	Measurement (2)	Control rod travel-
	Gauge pressure = bar	Gauge pressure = bar	difference (2) mm (1)
2311 + 766L	0,24	0,16 - 0,18	- 0,2 - 0,3 - 0,6)1)
2311 + 584DL	0,20 - 0,23	0,27 - 0,31	ca. 0,4 (2)
	·		·

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

En

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 DAF 6,2 h 1. Edition

PE 6 A 85 D 320 RS 2441

MB-EP/MV 80 AA188R

supersedes DAF

.. AA188R ./.

company DD 575

RS 2441Z .. AA'
Testing with "B" leads - VDT-I-DAF 003

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

2,15+0,1

A. Fuel Injection Pump Settings

Port closing at prestroke

RW9 mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm 1/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 5	Fuel delivery cm ¹ /100 strokes 6	Spring pre-tensioning (torque-control valve) mm 7
1000	9	4,2 - 4,5	0,4			
	6 12	1,3 - 2,0 7,4 - 8,2				
	9 t closing 4° camsh	2,4 - 3,1 difference bet	ween conti	ol-rod t	avel 9 mm and	21 =

Adjust the fuel delivery from each outlet according to the values in [___________

B. Governor Settings

2441 + 188 R

	Leakage	,	Control- limitatio breakav		Control	rod travel test	Auxiliary spring auxiliary cam**		Torque control	
Torque control travel	Vacuum pressure drop			Control rod travel	Vacuum	Control rod travel	Vacuum	Control rod travel		Control rod travel
mm	mm water col	s	mmwc	mm	mmw c	mm	mmwc	mm	mm w.c.	mm
1	2	3	4	5	6	7	8	9	10	71
	500-480	10	250 325 - 3	9,9 390*	400 525	5,3-9,2 0 -1,0	470 with	valve 4,5-6,0 auxiliary	spring	
= rotational sp adjust breakay	ontrol rod travel test (cols 4-11) rotational speed 500 rev/min djust breakaway (cols. 4-5) by means of shims* am adjustment (B 8-9 - C 7-8) by means of shims**						550 725	3,1-4,1 0 - 0,8		

C. Settings for Fuel Injection Pump with Fitted Governor

	full-load stop screw Test oil temp 40°C (104°F)			very character	istics	idle (sto idle (imb		Control road travel from full-load to
rev/min	Vacuum mm wat col cm³/1000 strokes 2 3			Vacuum mm wat col 5	cm³/1000 strokes 6	rev/min 7	Vacuum mm wat col	mm cm³/1000 strokes 8
1000				Start	ca. 18 mmRW			
								./.

Checking values in brackets

10.77

	Leakage Control-rod travel Ilmitation breakaway*		Control	rod travel test	Auxiliary auxiliary		Torque control			
Torque control travel	Vacuum pressure drop	Time	Vacuum	Control rod travel		Control rod travel	Vacuum	Control rod travel		Control rod travel
mm	mm water col.	s	nntw.c.	mm	mm w.c.	mm	mm w.c.	am	mmw.c.	mm
1	2	3	4	5	6	7	8	9	10	11
= rotational sp	500-480 vel test (cols. 4- peed 500 rev/mi way (cols. 4-5) ant (B 8-9 - C 7	n by mean	s of shim	9,6 460*	500 600	3,8-7,5 0 -2,2	470	valve 4,5-6,0 auxiliary 3,5-4,5 0 -0,8	spring	

C. Settings for Fuel Injection Pump with Fitted Governor

Ü	Full-load s Test oil ter rev/min 1	np. 40°C (104°i Vacuum	cm ³ /1000 strokes		Vacuum rnm wat. col.	stics cm ³ /1000 strokes 6	idle (stop idle (imba rev/min 7	Control road travel from full-load to idle mm cm ³ /1000 strokes 8
	1000		48,5 - 50,5	100	Start	ca. 18 mm RW		

Checking values in brackets

B. Governor Settings

	Leakage		Control- limitation breakay	n	Control		Auxiliary euxiliary	cam**	Torque co	
Torque control travel				Control rod travel		Control rod travel	Vacuum	Control rod travel		Control rod travel
mm	mm water col.	s	mmw.c.	mm	mmw.c.	mm	mmw.c.	mm	mm w.c.	mm
1	2	3	4	5	6	7	8	9	10	11
control rod trav	vei test (cols. 4-	11)								
adjust breakay	eed 500 rev/mii vay (cols. 4-5) l nt (8 8-9 - C 7-	by mean	s of shim eans of sl	es* hims**						

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load s Test oil ter rev/min	vacuum mm wat. col.		Vacuum mm wat. col.	cm ³ /1000 strokes	idle (stop idle (imba rev/min 7	Control road travel from full-load to idle mm cm ³ /1000 strokes 8

WPP 001/4 DAF 6,2 g 1. Edition

PE 6 A 85 D 320 RS 2441

MB-EP/MV 80 AA189DR

supersedes

company

DAF DF 615

AA189R

./.

engine

2441 + 189R

RS 2441Z Testing with "B" leads - VDT-I-DAF 003

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15+0,1

RW 9 mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery	Difference cm³/ 100 strokes	Control rod travel	Fuel delivery cm ¹ /100 strokes	Spring pre-lenisloning (torque-control valve) mm
1000	9	4,2 - 4,5	0,4	5		
	6 12	1,3 - 2,0 7,4 - 8,2				
200	9	2,4 - 3,1				

Adjust the fuel delivery from each outlet according to the values in ()

B. Governor Settings

id s. in the	Leakage		Control limitation breakay		Control	rod travel test	Auxiliary		Torque co	ontrol
Torque control travel	Vacuum pressure drop	Time at least	Vacuum	Control rod travel	Vacuum	Control rod travel	Vacuum	Control rod travel	Vacuum	Control rod travel
mm	mm water col	s	mmwc	mm	mmwc	mm	mmwc	mm	mm w.c.	mm
1	2	3	4	5	6	7	8	9	10	11
1 2 3 4 5 500-480 10 500 9,9 -600-675* control rod travel test (cols. 4-11) = rotational speed 500 rev/min adjust breakaway (cols. 4-5) by means of shims* cam adjustment (8 8-9 - C 7-8) by means of shims**					700	2,0-8,5	750	valve 4,5-6,0 auxiliary 4,4-5,5 0 -0,6	spring	

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load s Test oil ter	stop screw mp 40°C (104°)	F)	Fuel deliv	ery character	stics	-tle (stop idle (imb		Control road travel from full-load to idle
rev/min	Vacuum mm wat col	cm ³ /1000 strokes	rev/min Vacuum mm wat col cn 6		cm ³ /1000 strokes 6	rev/min 7	Vacuum mm wat col	mm cm ³ /1000 strokes 8
1000		54,5-56,5	100	Start	ca.18 mmRW			
**		sing differend amshaft.	e bet	een con	trol-rod travel	9 mm	and 21 =	./.

Checking values in brackets

10.77

	Leakage		limitatio	control-rod travel mitation reakaway*		rod travel test	Auxiliary auxiliary		Torque controt	
	pressure drop	1		Control rod travel	Vacuum mm w.c.	Control rod travel		Control rod travel		Control rod travel
MM 1	mm water col.	3	4	5	6	7	8	9	10	11
-	500-480	10	600	9,9	750	2,5-8,4 0 -1,2	750	valve 4,5-6,0		
= rotational sp	vel test (cols. 4- eed 500 rev/mir way (cols. 4-5)	n.	655-1					auxiliary 3,4-4,6 0-0,6	spring	

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load : Test oil te	Full-load stop screw Test oil temp. 40°C (104°F)			ery character	stics	idle (stop idle (imb		Control road travel from full-load to idle
rev/min 1	Vacuum mm wat. col. cm³/1000 strokes 2 3 4 5 6					rev/min 7	Vacuum mm wat. col.	mm cm³/1000 strokes 8
1000		54,5-56,5	100	Start	ca. 18 immRW			

Checking values in brackets

B. Governor Settings

	Leakage		Control limitatio breakay				Auxiliary spring auxiliary came*		Torque control		
	Vacuum pressure drop			Control rod travel		Control rod travel		Control rod travel		Control rod travel	
mm	mm water col.	s	mmw.c	mm	mm w.c.	mm	mm w.c.	mm	mm.w.c.	mm	
1	2	3	4	5	6	7	8	9	10	11	
	٠										
= rotational sp adjust breakay	ontrol rod travel test (cols. 4-11) rotational speed 500 rev/min. djust breakaway (cols. 4-5) by means of shims* am adjustment (B 8-9 - C 7-8) by means of shims*										

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load s Test oil te rev/min 1	Test oil temp. 40°C (104°F)			Vacuum mm wat. col.	stics cm ³ /1000 strokes 6	idle (stop idle (imba rev/min 7	Control road travel from full-load to idle mm cm ³ /1000 strokes 8

②

Test Specifications Fuel Injection Pumps 2 and Governors

4

WPP 001/4 DAF 6,2c 1 2. Edition

<u>En</u>

PE 6 A 90 D 320 RS2386

RQ 250/1200 AB749R

supersedes

6.76 DAF

Testing with "B" leads

company: engine:

DTD 615

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

**

Port closing at prestroke

2,2 +0,1 (RW 9)

n (from BDC)

Rotational speed rev/min	Control rod travel ° mm		Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,1 - 5,5	0,4			
	6	1,6 - 2,6				
200	9	2,9 - 3,9				•
**	Port cl	sing difference camshaft.	between	control-r	od travel 9 mm	and 21 =

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

PRG check Control rod travel	Full-load speed re Setting point Control rev/min mm 3 4	gulation Test specifications 4 Control rod travel mm rev/min 5 6	Idle speed regular Setting point Control rev/min 7	Test specifications Control rod travel mm	Control rod rev/min 12
650 19,7-20,3 1200 Breakaway	(Control lever ca.49°)	1200 19,6-20,0 1250 15,0-18,8 1300 9,5-15,2 1380 0 - 9,0 1480 0 - 1		150 9,0-11,7 250 7,1-10,0 350 4,0- 7,2 450 0 - 3 510 0	-

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At 245-1260

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten	elivery on ontrol lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	Fuel delivery characteristics		Starting for Idle spee	Control
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 strokesi/ mm 7
1000	67,0 - 69,0						

Checking values in brackets

8.76

40

WPP 001/4 HOR 1,0 b
1. Edition

En

PES 3 A 55 C 410/3 RS 1174

EP/RSV 600-2400 A9B237DL

supersedes -

company Holder
engine HD 3

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

1,7 + 0,1

mm (from BDC)

-RW 9 -

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	2,5 - 3,1	0,3	12	2,9 - 3,3	
·	9	0,7 - 1,5		9	1,2 - 2,0	
200	. 9	0,6 - 1,3		9	0,9 - 1,7	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1	r rated speed Control rod travel mm		Intermed	iate rated	speed 6	Control- tever deflection in degrees 7		rated speed Control rod travel mm	(3)	rque control Control rod travel mm
ca.70	2400 2540 2680	16,0 11,8 6,7	with spri	out au ng	xilia	ca.26 ry	600 250 600	6,0 19,0-21,0 5,7- 6,3		0 1,1-1,3
2 8	2640 2800 3100	6,4-9,6 1,8-4,4 0,3-1,0	with spri	auxi ['] l ng	iary		900 1300	2,8- 4,4 0 - 1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(4)	II-load stop	6 Rotational-speed limitat		iel delivery paracteristics	Starting fi	stop Control rod		
rev/min	cm ⁹ /1000 strokes	Note changed to } rev/min	rev/min	cm ² /1000 strokes	rev/min	cmi/1000 strokes		travel mm 9
2200	20,2-21,2	2420	1800	21,7-23,7				·

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KM-Kundendienst-Kfz-Ausrustung < 1980 by Robert Bosch GmbH, Postfach 50, 2-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Féderale d'Allemagne par Robert Bosch GmbH 2

estoil-ISO 41

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 HEN 6,5 c 1. Edition

<u>En</u>

PE 5 A 90 D 412 RS 2247

RQ 250/1300 AB 957 D

supersedes

company engine: Henschel HHF 552

1 - 2 - 4 - 5 - 3 je 72°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.5 * 0.1

mm (from BDC)

	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	6,6 - 7,0	0,4			4
	6	2,8 - 3,6				
200	6	0,1 - 0,8				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRĞ che	ck Control rod travel	Full-load s Setting po rev/min 3		Test spec Control red travel	Idle spee Setting p rev/min 7	Control red travel	Test spe	cifications 5 Control rod travel	rev/min	Control rod travel mm
650	15,6-16,4	650	16,0			0	150 250 400 520	7,0-8,1 5,7-7,7 1,9-4,3 0	-	-

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At 1345-1360

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a		Fuel delivery characteristics			Starting for speet	Control	
rev/min	cm³/-1000 strokes		rev/min		rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	nd tradi cm³/1000 strokes√ mm 7
1300	80,0 - 82,0		600			-		100	ca. 16 mm RW

Checking values in brackets

11.75

BOSCH

WPP 001/4 FOR 4,2 e 1. Edition

En

PES 6 A 85 D 210 RS 2379

EP/RSV 350-1300 A0 B2030DL .. B2031DL

Ford England Parent Bore 363 87 kW (118 PS)

See FOR 4,2 c!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,45-2,65)

mm (from BDC)

Rotational speed rev/min , 1	Control rod travel mm 2	Fuel dalivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	8,5-8,6	5,0 - 5,2	0,3(0,45)			
350 500	6,4-6,6	0,9 - 6,5 0 4-5	0,2(0,4) 0,4(0,55)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

estoil-ISO 4

10 1	rated speed Control rod travel mm		Intermed	hate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	110	rque control Control rod travel mm
100se ca.60	800 1600 7,5	0,3-1,0 0,3-1,7 1370-1380 1470-1500				ca.25	350 100 350 565-6 650	6,0 min.19 6,4-6,6 25 = 2,0 0 - 1	1250 730 500	+0,1 8,5 9,0 9,2
23	4,0	1470-1300								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop	6 Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	48 idle stop	
rev/min	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to 1 rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm=/1000 strokes 7	rev/min 8	travel mm 9
1250	51,0 - 52,0 (49,0 - 54,0)	1370-1380*	500	44,0-46,0 (42,0-48,0)	100	19 - 21		

Checking values in brackets

* 1 mm less control rod travel than col 2



WPP 001/4

1. Edition

PES 4 A 90 D 410 RS 2442

RQ 275/1300 AB994L

supersedes

company

OM-Brescia

Setting of check switch at 1480-1490 min-1 - lamp must light up!

engine:

C03/130

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,15-2,25 Port closing at prestroke (2,10-2,30)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1300	11,7	8,0 - 8,2	0,2(0,35		·	
	(+0,1)					
275	8,3-8,5	1,5 - 2,1	0,2(0,3)			
650		C 4-5	0,3(0,4)			
•						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

- 1	-	Checking of slider PRG check The setting point				cifications (4)					Torque control Control rod		
	rev/min	Control rod travel mm		Control red travel rnm 4	Control rod travel rmm	rev/min	rev/min 7	control rod travel rnm 8	rev/min	travel mm	rev/min	travel	
	900	15,6-16,4	900	16,0		1345-1360 1490-1500	i .	8,5		min.10,0 8,4-8,6	1300 650	11,7-11,8	
,	130		way .		4,0	1490-1500				30 =2,0	500	12,4-12,6	
	160	0 - 1											

Torque-control travel on flyweight assembly dimension a =

Col .11-12 Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for Idle spee	Control
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes)/ mm 7
1300	80,5 - 81,5 (78,5 - 83,5)		650	79,5 - 82,5 (77,5 - 84,5)	100	119,25-129,25

Checking values in brackets

10.77

Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.
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estoil-ISO 41

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 HEN 8,2 b 1. Edition

PE 6 A 90 D 412 RS 2253

RO 250/1300 AB 957 D

company: engine:

Henschel HHF 562

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

2,5 + 0,1

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	6,6 - 7,0	0,4			
200	6 6	2,8 - 3,6 0,1 - 0,8	Andrew Community of the Andrew			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	_	f slider	\sim	Full-load s	•	-	situations (A)	Idle speed regulation Setting point Test specifications 5				Torque control		
rev/m	Co tra	ontrol rod Ivel m	U		Control rod travel mm 4	Control rod travel	rev/min	rev/min 7	Control rod travel	rev/min	Control rod	rev/min	Control rod travel mm	
65	60	15,6-1	6,4	650	16,0		15,6-16,0 10,0-14,2 0 - 8 0		0	150 250 400 520	7,0-8,1 5,7-7,7 1,9-4,3 0	-	-	

Torque-control travel on flyweight assembly dimension a =

1345-1360

1 mm less control rod travel

C. Settings for Fuei Injection Pump with Fitted Governor

	elivery on ontrol lever	Control rod stop 3a	Fuel delivery characteristics			Starting for	
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm³/-1000 strokes 5		rev/min 6	Control rad travel cm ³ /1000 strokes:/ mm · 7
1300	82,5 - 84,5	600				100	ca. 17 mm RW

Checking values in brackets

11.75

WPP 001/4 DAF 6,2 b 3 2. Edition

PE 6 A 85 D 320 RS2376

EP/RSV 250-1300 A1B639R

supersedes 9.74

company

DAF

Testing with "B" leads !

DF 615 engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15+0,1(RW 9)

mm (from BDC)

Rotational speed	Comirui rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm³/ 100 strokes \ 4	mm 2	cm ^{\$} /100 strokes 3	mm 6
1000	9	4,2 - 4,5	0,4		90-	
	6 12	1,3 - 2,0 7,4 - 8,2				
200	9	2,4 - 3,1				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	hate rated	speed	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	10 3	rque control Control rod travel mm
ca.72	1300 1350 1390	16,0 10,0 4,0	•	without auxilian			250 100 250	6,0 19 - 21 5,7-6,3	400 290	0
29	1360 1400 1480	7,0-10,6 2,4- 5,5 0,3- 1,0	with auxiliary spring				350 440	0,8-3,5 0 -1,0	250	1,2,1,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	ill-load stop	Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	4a Idle stop			
Test oil to rev/min 1	emp 40°C (104°F) cm³/100°) strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9		
1000	54,5 - 56,5 (53,0 - 58,0)	1310-1320			0	20 mm RW	250	6,0		
**	 Port closing di 3-4° camshaft		ween	control-rod trav	el 9	nm and 21 =				

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 SCL 4,7 a

1. Edition

En

PES 4 A 85 C 410 RS2279

EP/RSV 250-1000 A1B524DL

supersed∈s

Schlüter

RS2279 RS2279Z EP/RSV 250-950 A1B669DL EP/RSV 250-950 A1B669DL company engine

SDM 110 W4 (1) SDMT 110 W4 (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,4 + 0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,1 - 5,5	0,4	9	4,2 - 4,5	
	6 15	1,3 - 2,1 12,1 -13,2		6 -	0,7 - 1,4	
200	6	0,1 - 0,9		9	1,4 - 2,2	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

524DL

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	tate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm 9	1 3	rque control Control rod travel mm 11
ca.50	1000 1020 1050	12,0 9,4 5,0	with spri	out au ng	xilia	ca.20 y	250 150 250	5,5 19 - 21 5,2-5,7	980 600	0 0,6-0,8
28	1020 1050 1150	8,5-10,2 4,3-6,4 0,3-1,0	with spri	auxil ng	iary		350 540	2,9-4,2	350	0,9-1,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		el delivery aracteristics	Starting I	uel delivery 5	4a) idi	e stop
rev/min	cm ³ /1000 strokes	Note. changed to) rev/min 3	rev/min	cm ³ /1 000 stroke s 5	rev/min	cm-/1000 stroke: 7	rev/min	Control rod travel mm 9
980	51,5-55,5	1020			100	ca.20 mm RW	250	5,5

Checking values in brackets

* 1 mm less control rod travel than col 2

5.77

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B. Governor Settings

	r rated speed Control rod travel mm		intermed	liate rated	speed	Control- lever deflection in degrees 7	rev/min	rated speed Control rod travel rnm 9	1 4	rque control Control rod travel mm
ca.50	950 1000 1030	16,0 10,6 6,5	witho sprin	ut aux	kiliar	ca.21 y	250 150 250	6,0 19 - 21 5,7-6,3	930 820	0 0,3-0,5
29	1050	9,3-11,5 3,7- 5,4 0,3- 1,0	with sprin	auxil:	iary		400 550	1,5-3,6 0 - 1	400	0,4-0,6

C. Settings for Fuel Injection Pump with Fitted Governor

	H-load stcp mp. 40°C (104°F) cm³/1000 strokes mp. 40°C (104°F) mp. 40°C (104°F) mp. 40°C (104°F) note: changed to) rev/min rev/min grev/min gre		Starting (Idle rev/min 6	cm³/1000 strokes	e stop Control rod travel mm 9		
950	73,0 - 75,0	970	700 500	75,5 - 78,5 68,0 - 71,0			

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

669DL mit 2279Z

	rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	diate rated	speed	Control- tever deflection in degrees 7	_	rated speed Control rod travel mm	(3)	rque control Control rod travel mm
ca.50	950 1000 1030	16,0 10,6 6,5		without auxiliar			250 150	6,0 19 - 21	930 820	0 0,3-0,5
29	1000 1050 1170	9,3-11,5 3,7- 5,4 0,3- 1,0	with spri	auxil ng	iary		250 400 550	5,7-6,3 1,5-3,6 0 - 1	400	0,4-0,6

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	speed limitat.		el delivery aracteristics	Starting f Idle	uel delivery 5	4e Idi	e stop Control rod
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7'	rev/min 8	travel mm 9
950	90,5 - 92,5	970	700 500	92,5 - 95,5 86,5 - 89,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 SCL 9,5 a 1. Edition

PE 8 A 85 C 410 RS2281

EP/RSV 250-1100 A1 B524DL (1)

supersedes company

Schlüter

EP/RSV 250-1025 A1 B778DL (2)

SDM 110 WB !1)

SDMT 110 WB (2)

1 - 4 - 7 - 6 - 8 - 5 - 2 - 3 - je 45°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference Control rod travel		Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ^{\$} /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	5,1 - 5,5	0,4	9	4,2 - 4,5	
	6 15	1,3 - 2,1 12,1 -13,2		6	0,7 - 1,4	
200	6	0,1 - 0,9		9	1,4 - 2,2	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

524 DL

11	r rated speed Control rod travel mm		Intermed	diate rated		Control- lever deflection in degrees 7	_	rated speed Control rod travel mm 9	9	que control Control rod travel mm
ca.50	1100 1130 1150	12,0 8,0 5,0	witho sprin		xiliar	ca.20 y	250 150 250	5,5 19 - 21 5,2-5,8	1080 600	0 0,6-0,8
2 a	1120 1150 1250	8,0-10,6 3,5-6,0 0,3-1,0	with spri	auxil ng	iary		350 540	3,1-4,1 0 - 1	350	0,9-1,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	III-load stop	6 Rotational- speed limitat		iel delivery aracteristics	Starting fi	uel delivery 5	9	e stop
Test oil to rev/min 1	cm ³ /1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ¹ /1000 strokes 7		Control rod travel mm 9
1100	68,5 - 70,5	1120		`	100	ca.20mmRW	250	5,5

Checking values in brackets

* 1 mm less control rod travel than col 2

5.77

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7	78	DI

	r rated speed Control rod travel mm	rev/rnin Co itrol rod travel mm rev/min	Intermed	liate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm		rque control Control rod travel mm
ca.51	1025 1050 1080	-,	witho sprin	ut aux g	iliar	ca.20	250 100 250	5,5 19 - 21 5,2-5,8	1000 400	0 0,9-1,1
20	1040 1100 1200		with sprin	auxili g	ary	,	350 520	2,8-4,0 0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat.		iel delivery naracteristics	Starting f	uel delivery 5		e stop
Test oil te rev/min 1	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm ³ /1000 strokes 7		Control rod travel mm 9
1025	78,5-80,5	1065-1075*	700 500	83,5 - 86,5 75,0 - 78,0	100	ca.20mmRW	250	5 , 5

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	rated speed Control rod travel mm	intermed	liate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rque control Control rod travel mm
29								

C. Settings for Fuel Injection Pump with Fitted Governor

	ii-load stop mp. 40°C (104°F)	Rotational- speed limitat. Note: changed to)	39 Fu	el delivery aracteristics	Starting f	uel delivery 5	Idle stop Control rod		
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm	
1	2	3	4	5	6	7	8	9	

Checking values in brackets En

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4
3. Edition

.

PES 8 A 80 D 321 RS2429 RS2478 RQV 300-1500 AB874R RQV ... AB874R, ..945DR supersedes company:

4.77 Berliet

1 - 5 - 4 - 8 - 6 - 3 - 7 - 2

- 3 - 7 - 2

engine.

v 800..

0 -45 -90 -135-180-225-270-315°

Test with "B" lines - set shutoff device to 0.5-1.0 mm CRT!

All test specimications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9 + 0,1

mm (from BDC)

Rotational speed	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,2 - 3,5	0,3	9	4,6 - 4,9	
200	6 12 9	0,2 - 1,5 6,0 - 6,8 1,6 - 2,4		6 - 9	1,1 - 2,3 3,1 - 3,9	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQV .. 874R

Degree of deflection	deflection Control travel of control rod travel mm			Degree of deflection deform to control			Lower rated Degree of deflection of control lavar 7	speed rev/min 8	Control rod travel mm 3	Sliding sleeve travel 1 rev/min mm 10 11	
ca.68		0 - 7,	5	-	-	-	ca.13	200 350 600 800 900	6,4-8,4 3,5-5,5 1,6-2,7 0-1,1	400	0 - 0,9 1,6-2,4 2,6-3,2 8,3

Torque control travel a =

ma

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil ten		Rotational-speed 20 Ilmitation intermediate speed	Fuel deliv	rery characteristics 56 peed (50)	Starting idle switchir		Torque- travel	Control (5) Control rod travel
rev/min	cm³/1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min 8	mm
1500	54,5 - 56,5	1540~1550*			100 100	59,5-69,5 = 69,5-84,5 =		
				Ch	300 ange-0	7,5-11,5 ver point 18	0-250	min ⁻¹

Chucking values in brackets

* 1 mm less control rod travel than col. 2

deflection	rev/min Control rodtravel	Control rod (1a travel mm rev/min (2a	Intermediate Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm 3		eeve travel 1) mm
ca.68	1510 1570 1630 1690 1800	11,2-14, 6,2-11, 0 - 7,	5	-	-	ca.13	200 350 600 800 900	6,4-8,4 3,5-5,5 1,6-2,7 0 -1,1	220 400	0- 0,9 1,6-2,4 2,6-3,2 8,3 0 1,2-1,5

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod		Rotational-speed (2b) Ilmitation Intermediate speed	need / \	Starting i Idle switchin		Torque- travei	Control rod	
rev/min	cm ³ 1000 strokes	rev/min 48	rev/min	cm ³ 71000 strokes	rev/min	cm3/1000 strokes	rev/min	travel mm
1500	44,5-46,5	1540-1550*	1200 900		100	69,5-84,5		
					300	7,5-11,5 -180 min ⁻¹		
					230.	-100 11111		

Checking values in brackets

1 mm less control rod travel than col. 2

B. Governor Settings

rev/min Control rod travel	Control rod travel mm rev/roin	(1a) (2a)		ed Control rod travel mm 4	Lower rated Degree of deflection of control lever	Control rod travel mm (Sliding sl rev/min	mm
					За			

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed (2b) Ilmitation Intermediate speed (4a)	Fuel deliv high idle s	rery characteristics 5a speed 5b	Starting Idle switchir	fuel delivery 6	Torque- travel	Control rod
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
							1	
			1				Ì	
1			1		Ì	Î		
						1		
					1			
			1		1			
			1				1	

Checking values in brackets

* 1 mm less control rod travel than col 2

①

estoil-ISO 41

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 5,0 d
1. Edition

En

PES 6 A 90 D 320 RS2320

RQV 200-1400 AB942/2R

supersedes _

company: V 0 1 V 0

Test with overflow valve and "B" lines

engine: D 50 B

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,0+0,1 - RW 9

Port closing at prestroke

mm (from BDC)

. C. C. C. C. C. C. C. C. C. C. C. C. C.						
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,4 - 6,8	0,4			$2,5 \pm 0,1 **$ (2,2-2,9 max.)
	6 9	0,3 - 0,9 2,6 - 3,5				
200	9	0,8 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

** In the case of greater dispersion alter the delivery-valve spring pre-tension

B. Governor Settings

Upper rated sp	Upper rated speed				rated spe	ed	Lower rated	speed		Sliding sleeve travel		
deflection of control	Control rod travel	travel	(a) (28)	Degree of deflection of control lever	fêv/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	mm 1	
ca.68	1400 1450 1500 1600 1730	15,0-18 10,8-14 7,2-12 0 - 6	,6	-	7	-	ca.12	150 250 350 450 560	6,4-8,0 3,8-6,2 2,2-3,5 0,9-2,2	10	-	

Torque control travel a =

mm

C. Settings for Fuel injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F)		Rotational-speed 2b Ilmitation intermediate speed	Fuel delivingh sole s	rery characteristics 50 poed 50	Starting Idle switchin	\circ	Torque- travei	Control (5)	
rev/min	cft ³ /1000 strokes	rev/min 49	rev/min	cm³/1000 strokes rev/min cm³/1000 stroke			rev/min	travel mm	
1	2	3	4	5	6	7	8	9.	
800	46,5 - 48,5	1440-1450*			60	mind.18mmRW			
					200 isper	5,25-11,25 sion max.1,5	**ca	. RW8,5	
			٠,	Ĩ	Эрст	12,25-17,25			
				d	isper	sion max.3)	-ca.	RW5	

*** Port closing difference between control-rod travel 9 mm and 21 = 6.76

_20

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40

WPP 001/4 VOB 5,0 b

1. Edition

PES 6 A 90 C 320 RS 2320,..

RQV 200-1200 AB 751 300-1200 supersedes 5.72 BOL 5,0d

RQV 300-1100 AB 743

company: Volvo-BM engine: D 50 B (1-3)

Test with overflow valve and "B" lines

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,0+0,1 -RW 9

mm (from BDC)

(1)

(2)

(3)

Rotational speed	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	2	6,4 - 6,8	0,4			2,5± 0,1**
	6	0,3 - 0,9				
	9	2,6 - 3,5				
200	9	0,8 - 1,7				

Adjust the fuel delivery from each outlet according to the values in ______.

** In the case of greater dispersion alter the delivery-valve spring pre-tension

B. Governor Settings

RQV 200-1200 AB 751 (1)

deflection of control	rev/min Control rod travel	Control rod travel mm rev/min 28	Intermediate Degree of deflection of control lever	rated sports rev/min 5	Control rad travel mm 4	Lower rated Degree of deflection of control lever 7	rev/min	Control rod travel mm (3)	Sliding s rev/min 10	eeve travel 1 mm 11
ca.68	1250 1300 1380 1470	0 - 6,8	ng diffe		- between o	ca.12 control-	100 250 350 450 630 rod tr	4,9-7,1 2,4-4,5 1,6-3,0	1200 and	21 =

Torque control travel a =

MILL

C. Settings for Fuel injection Pump with Fitted Governor

Control-rod stop		Rotational-speed (2b) limitation intermediate speed	Fuel deliv	very characteristics 5e peed (5b)	Starting Idle switching	. 0	Torque- travei	Control 5
rev/min	cm ³ /1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes		cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
-800 Z800 Y800 X800 V800 W800 U800	42,0-44,0 30,0-32,0 34,0-36,0 35,5-37,5 38,0-40,0 27,0-28,0 55,0-57,0	1210	500	dis	pers 1300	min.18 mmRW 5,25-11,25), on max.1,5 5,25-11,25) lon max.1,5 12,25-17,25, ion max.3	* -200-	1200 1200

Checking values in brackets

* 1 mm less control rod travel than col. 2

8.75

B. Governor Settings

RQV 300-1200 AB 751 (2)

Upper rated	speed			Intermediate rated speed			Lower rated	speed	Sliding sleeve travel		
Degree of deflection of control lever		Control rod travel mm rev/min		Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm (3)	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
ca.68	1250 1310 1370 1430 1530	15,0-18 10,3-14 5,0-11 0 - 7	,7	-	-	-	ca .12	200 350 500 600 680	7,0-8,2 3,6-5,8 1,6-3,2 0 -1,4 0	1250	8,3
							(3a)				

Torque control travel a =

C. Settings for Fuel injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	Stop	Rotational-speed (2 limitation intermediate speed	Fuel deli high idle	very characteristics 5a speed 5b	Starting Idle switchin		Torque- travel	Control roo
rev/min	cm ⁴ 1000 strokes	rev/min 4	rev/min	cm ³ /1900 strokes		cm3/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
Full-	oad delivery	see page 1!						

Cho king values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

RQV 300-1100 AB 743 (3)

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Sliding sleeve travel		
Degree of deflection of control	rev/min Control rod travel	Control rod travel	(1a)	Degree of deflection of control	1	Control rod travel	Degree of deflection of control		Control rod travel		1	
iever	mm	rev/min	(2a)	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm	
11	2	3		4	5	6	7	8	9	10	11	
ca.68	T .	15,0-18, 10,2-14, 5,4-11, 0 - 7,	8	-	-		ca.12	200 350 450 580 630	7,0-8,2 3,7-5,8 2,0-3,3 0 -1,1	300 480 750 1140	0,4-1,5 2,4-3,0 4,4-4,9 8,3	
							3 a					

Torque control travel a =

C. Settings for Fuel Injection Pump with Pitted Governor

Full-load de Control-rod Test oil tem rev/min	cm³/1000 strokes	Rotational-speed (2b) Ilmitation Intermediate speed rev/min	Fuel delivingh idle s	very characteristics 5a speed 5b cm ³ /1000 strokes		\sim	Torque- travel	Control rod travel
1	2	3	4	5	6	7	8	9
800	49,0 - 51,0	1110			1200	min. 5,25-11,25 pn max.1,5 11,25-16,25 ion max.3	**	

Crieuning values in brackets

* 1 mm less control rod travel than col 2